THE BUILDER
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The Staircase, Norway House, Burford Close, Hampstead.

From a drawing by Mr. Fredk. Adcock.

[Norway House, dating from the latter part of the seventeenth century, is now being demolished. Its most interesting feature is the oak open newel staircase, with twisted balusters, shown above.]

MEETINGS

Wednesday, *April* 8.

Institution of Structural Engineers (Lancashire and Cheshire Branch). Ordinary General Meeting. At Manchester. 6 p.m.

Thursday, *April* 9.

Institution of Structural Engineers. Mr. F. E. Drury on "The Structural Engineer and his Vocational Training." 6.30 p.m.

Institution of Structural Engineers (Yorkshire Branch). Mr. J. Stuart Lewis on "Sydney Harbour Bridge." At Leeds. 7 p.m.

Friday, *April* 10.

Hampshire and Isle of Wight Architectural Association. General Meeting. At Winchester. 6.15 p.m.

Saturday, *April* 11.

Incorporated Clerk of Works Association. Annual Dinner. At the Holborn Restaurant. 7 p.m.

Monday, *April* 13.

Royal Institute of British Architects. Mr. G. Grey Wornum on "Modern Flats." 8 p.m.

New Head Office of the Westminster Bank, Lothbury, E.C.

MESSRS. MEWÈS AND DAVIS, F.R.I.B.A., Architects

MODERNISM IN ARCHITECTURE AND DECORATION

ART in its every branch has always been more a matter of development than of inspiration, however much those engaged in it may like to flatter themselves that inspiration is the source of their ideas. We cannot get beyond this terrestrial sphere, and what is colloquially known as a brainwave more nearly approximates to the truth as the beginnings of new "breaks" in styles or sequences. Even then the wave has only come from something seen before or been imagined from previous images that have appeared before the eye, at some time or other, to fade from memory and to reside in the subconscious mind until events recall it.

Being then developed rather than inspired, there is nothing sacrosanct about art, or any development of it. But there is something outside it that acts quite as effectively as a barrier to the iconoclast and Philistine and that is the public opinion of men of education and refinement. According to the number of these in a community is the measure of its true civilisation. Refinement of mind and sensitiveness to beauty have ever been the signs of man's development in all ages and in every part of the world, which fact makes one anxious about our own country at the present time; for despite the work of some painstaking men in different localities the post-War architecture scarcely betrays these qualities of mind.

The trouble has arisen from three sources. These are, acute economy due to the follies of a former decade, new materials which we have not yet learned how to utilise properly, and, often arising from these two but as frequently quite independent of them, a desire for breaking away from accepted canons of art and their former expressions. Now the latter is quite a legitimate reason for a "new architecture" whether reinforced by the other two considerations or not, but unless one intends to be a Philistine of the most uncompromising order it is necessary to understand the limitations which education and delicacy of mind set for the innovator and which, if exceeded, prevent any work from becoming noteworthy or permanent. The modernist who sets these at defiance is never likely to become more than a man of the moment, or to produce works to outlive him.

It may be profitable to consider the nature of these limitations and the form they take. In doing this we have to remember there are three ways of designing a building. First, one may copy from some previous styles. This is quite legitimate, providing always that the architect copies faithfully—for truth is as much one of the foundation stones of good architecture in fidelity to style, when one is copied, as it is in the purpose and use of materials—and that he is content to offer it as a reproduction. Secondly, he may take some previously accepted form of building and adapt and improve it to his purpose with taste and sympathy, as was done in the days of the Renaissance, when he may claim some originality for his conception. Thirdly, if he is clever enough he may evolve some entirely new mode of design, and here is where adventure comes in and this may land him in the niche of fame or lead him to disaster.

Many beautiful buildings have resulted in the last hundred years from following the first course, and Europe is full of others resulting from taking to the second, but it is almost as replete with fearful examples that are the offspring of the third. It is rather a curious fact that the Teutonic mind when it desires to have a break from the orthodox towards the original should seek it in the bald, crude and gross, while the Latin plunges into redundancy of ornament and the free following of fancy. In the development of modernism the new material concrete has rather put a check on the latter impulse, and even the French have been put on the general level of crudeness. Yet there is hope and the Frenchman may be the creator of the new style to suit fresh materials.

Modernism is far more likely to express itself in the newer materials than in the adventure that fresh adaptations of the old ones involves. This, too, may very well include the ancient styles of design. It is in fresh interpretations of these that the greater number of architects have found defeat. To be a good copyist is no disgrace, even if it does not exalt an architect to the highest place, but to play ducks and drakes with a style which educated men admire and revere means oblivion sooner or later. To decorate a severely classic building with the abandon of Renaissance detail, for instance, may be a modernism, but scarcely one that could be commended.

As shown by some of our most learned archæologists and artists, nearly all the features of buildings evolved in the past have originated in strictly utilitarian motives. Man first learned how to build for security and strength and, when these were secured, to ornament and beautify the essential members of his building. As a matter of fact, the forms of the majority of architectural features we are familiar with now evolved but slowly. This is what modernism will have to do if it would be successful. Again, this evolution was a matter of development in which the copyist had a guiding hand, and this, too, may have to be repeated before the modernist may be able to make much progress. This, better than wild dashes into the crude and grotesque, will prove to further his object more successfully.

Modernism with the older styles anticipates a supermind, and that is not given to every man. With the newer materials all start on an equality such as man commenced using others with. The architect who feels out for new inspirations is more likely to find them in building plainly and simply, thinking from shovel to trowel, and from mixer to tamper, than in endeavouring to extract ideas from the use of older products in ancient styles.

The difficulty the modernist has to contend with is that he is a modernist: he has no ancestry. When railways were new and landlords wanted to extract the uttermost farthing from them for the land they required the new form of locomotion was denounced as a blot upon the landscape, the ruin of the countryside. To-day they are described as a pleasant and animated feature in the scenery of the locality through which they run. Doubtless, even some of the ugly buildings that have been inflicted upon us lately will in about the same time become at least interesting and, possibly, respected on account of their age. Man is always influenced by the primitive faculties and never more so than when anything new is first presented to him. Few men can immediately shake themselves free enough from this influence to give fair and reasoned judgment, on new designs and styles especially. The knowledge of this in those who can, makes them more tolerant and tender towards the genuine striver for originality however much he errs.

The modernist, however, has his responsibilities, which he can only disregard at his peril as architect or decorator. These, and the difficulties and prejudices he has to combat, together with the great unknown sphere of the newer materials, require for complete success that genius which is the art of taking pains with intensive thought. The man who feels himself to be unequal to this will do better as a copyist, and he may have no reason to be ashamed if conscientious and painstaking. Even that something that is called inspiration may come to him then.

NOTES

The Architect's Registration Bill.

After many weeks, Standing Committee A of the House of Commons has at last completed its consideration of the Architects' (Registration) Bill. The measure is now a very different one from that which received a second reading in the House of Commons. Many concessions have been made by the promoters, and it is by no means certain that even now the opponents of the Bill have been placated. Should there be considerable opposition on the report and further reading stages which will come on in the House of Commons soon after Easter, it is difficult to see how the Bill can reach the House of Lords this session. But there is still time for further negotiations and arrangements. A report of the proceedings in Committee is given on page 626.

Charing Cross Bridge Criticism.

What are we to think of traffic experts, says Mr. D. S. McColl who declare, in reference to the low-level scheme that we published last week, that Northumberland-avenue, a half-empty thoroughfare partly occupied by a cab-rank, is incapable of accommodating a part of the new bridge traffic which would be shared by two diversions into the Embankment and a fourth into the Strand itself, whilst proposing to discharge the whole of the traffic into that notoriously congested street? There is surely some incoherence of thought in this!

The New University Buildings, Bloomsbury.

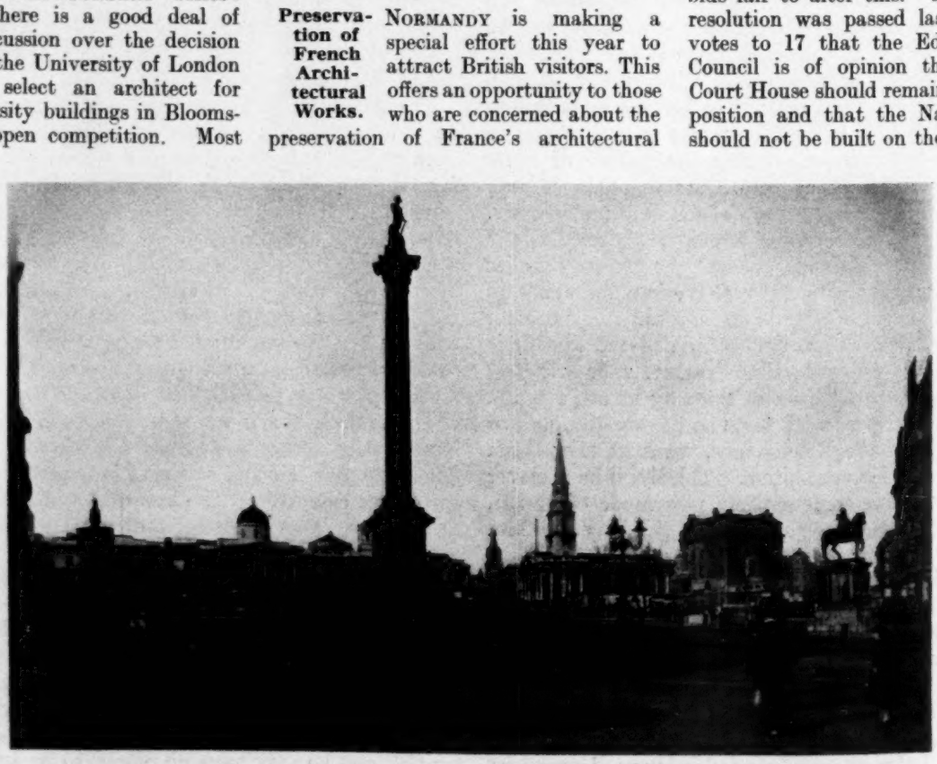
A correspondent writes: "There is a good deal of discussion over the decision of the University of London to select an architect for the new University buildings in Bloomsbury without open competition. Most architects would have preferred that for buildings which will make or mar that part of London, the selection should have been made by means of a competition. On the other hand, no doubt the University authorities feel that the question is of such paramount importance that they cannot leave the final decision in the hands of an assessor or assessors chosen by the Institute. In addition to the architectural qualifications, experience and skill of the man chosen, equally, if not even more important, is that of his personality. The buildings may well take twenty or thirty years to erect. The latest educational ideas, discovered as the result of enquiries in other countries, are to be installed. London University hopes to have in time the finest and most up-to-date buildings, consisting of lecture halls, laboratories, libraries, administrative office, recreation rooms, hostels and even swimming baths, of any University in the world. The architect chosen must be a man ready to co-operate in a most friendly manner with the educational experts; he must be a man of tact and also be ready to accept new theories. At the same time he should be capable of taking a firm stand without giving offence, if he considers any proposal is structurally or æsthetically unwise. No mere competition, it is thought, would have enabled all the qualities needed to be tested. It is understood that the enquiries are now narrowing down. Within the course of the next few weeks the name of this Admirable Crichton of the architectural profession in the view of London University will be announced to the world."

Preservation of French Architectural Works.

Normandy is making a special effort this year to attract British visitors. This offers an opportunity to those who are concerned about the preservation of France's architectural treasures to point out that the city of Rouen sets a good example in the care of her Gothic buildings and her quaint streets with their wooden façades. The Cathedral, notable as an example of the "Flamboyant" style of architecture: the Palais de Justice, a masterpiece of late Gothic; the fifteenth-century St. Vincent and St. Maclou are all well cared for. But in Caen, artistic buildings suffer from their surroundings. One church stands deserted. Another is used as a corn-market, and yet another as a store-palace for roadmen's barrows and brushes. The Abbey itself is spoilt by a row of sordid houses, while a necessary municipal building stands close to the Church of St. Pierre, which is one of the marvels of Renaissance art. A party of Englishmen, including several architects, are shortly visiting Caen, under the auspices of the United Associations of Great Britain and France, of 16, Hanover-square, London, W.1. The visit is connected with the ceremonies for the unveiling of a tablet on which will be recorded all the names of the Companions of William the Conqueror. Possibly something may be said to the responsible authorities, appealing to them to protect the unique architectural treasures which have now passed into their charge.

The Scottish National Library.

Notwithstanding the decision of the Trustees of the Scottish National Library to place the new Library buildings on the site of the Sheriff Court, the opposition to it of the Edinburgh City Council bids fair to alter this. At all events a resolution was passed last week by 43 votes to 17 that the Edinburgh Town Council is of opinion that the Sheriff Court House should remain in its present position and that the National Library should not be built on the site suggested



Trafalgar Square,

Showing St. Martin's-in-the-Fields as revealed by demolition of old buildings on the Eastern side—the site of the new South Africa House.

by the National Library Trustees. The *Scotsman* very fairly says:—"Once it became clear that the Trustees were not necessarily tied by the Act of Parliament to the George IV. Bridge site, the whole question assumed a different aspect. It is because it is felt that the Trustees have failed to give fair consideration to any alternative site, and because of the serious disadvantages that have been shown to attach to the George IV. Bridge scheme, that there is now a strong case for setting up an independent inquiry into the whole matter."

Garden Cities Control.

If the Government's new Bill in connection with Town and Country Planning becomes law, future generations will not have to put up with "ribbon development" and other forms of "development" which are detrimental to the beauty of the countryside. The Bill proposes to give power to a local authority to prepare a scheme for developing any land within or in the neighbourhood of its district, or to adopt a scheme of all or any of the owners of the land. The Minister of Health will either approve such scheme or, alternatively, prepare one of his own. The buildings themselves may be controlled in a much closer way than the by-law conditions at present existing have required, and such matters as the number of houses to the acre and control of elevations will be provided for. The proposals are far-reaching and provide for the acquisition of land for garden cities. Another important condition is that of forcing local authorities to act; if the Minister of Health deems a scheme necessary — after holding a public enquiry—he may, failing the local authority so doing, prepare a scheme and act in the place of and at the expense of the local authority concerned.

Church of St. Bartholomew the Great.

Good progress is being made with the work of preserving the Priory Church of St. Bartholomew the Great, which dates from 1123, when the Priory was founded by Rahere, a courtier of Henry I. The restorations were begun in 1863 and continued in 1885 under the direction of Sir Aston Webb. But the death-watch beetle has caused such extensive damage to the roof that it was threatened with collapse last year, and Major Maurice Webb is now the architect for the extensive repairs, which are in progress. The Norman stone work has been suffering sadly from the sulphur fumes of London's atmosphere, and from gas and candles. Electric light is now being installed. The urgent need is to save the Gatehouse, the entrance to London's peerless Norman church.

House Rent Experiments.

A tribute is paid to the builder for the present of trees to Pollock House in the annual report of the Kensington Housing Trust which was placed before the annual general meeting held on Monday, March 30. Of special interest to all students of housing are the experiments now being made by the Trust in differentiating rents according to needs. Thus in Crosfield House a system of allowances for dependent children is still in force. Some 23 families at present receive a rent rebate. These allowances are revised once a year by a special sub-committee, which inquires into any variation of circumstances which might mean an increase or decrease of rebate. At Pollock House a variation is being tried. Rents have been experimentally fixed on the basis of the total family income, regardless of the number of dependent children. This experiment will be revised annually and will be closely watched as an alternative to the Crosfield House system.

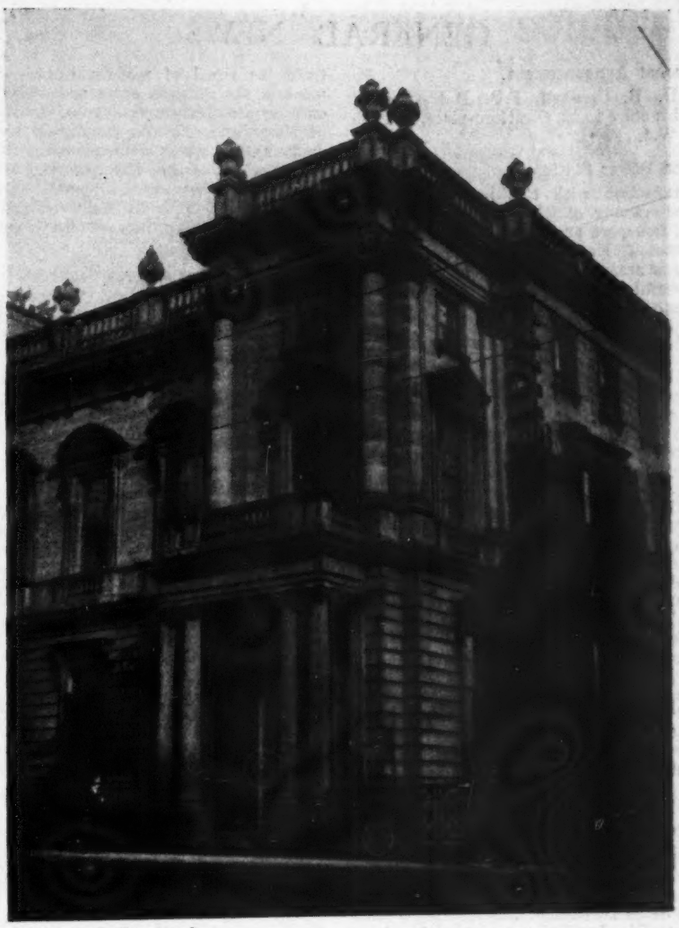


Photo: G. B. Greenwood.

The Sheriff Courts, Edinburgh.

Bryce, Architect (1803-1876).

The portico treatment is repeated at the other end of the front, and there are six window bays between

The Late Arnold Bennett.

The death of Mr. Arnold Bennett is a loss not only to literature but to architecture, for the dead novelist, as would be expected of one who was a great amateur of life in all its forms and moods, took a lively interest in architecture and building, that showed itself clearly in his books. The house that Denry, in "The Card," built for himself was a notable instance of the novelist's interest in and practical appreciation of architectural and building problems, and among the amusing contrivances that he invented will be remembered the water supply to the front doorstep, which could be flushed down by the mere turning of a tap. In a different mood, the description of the West End club room in "Buried Alive" shows with peculiar vividness the novelist's reactions to a certain type of architectural interior. Arnold Bennett, of course, had many friends among architects and artists, including especially that brilliant genius the late E. A. Rickards, with whom he formed a close and intimate friendship that lasted over a period of thirty years. He took Rickards with him on many of his Continental wanderings, and they collaborated in at least two books—"Paris Nights" and "The Log of the 'Velsa'" (the "Velsa" being a small yacht at one time owned by the novelist). When Rickards died (in 1920) Arnold Bennett, in a memorial volume published at the time, wrote a fine appreciation of his friend, which ended: "The two most interesting, provocative and stimulating men I have yet encountered are H. G. Wells and E. A. Rickards."

GENERAL NEWS

Professional Announcement.

Mr. H. B. Creswell, F.R.I.B.A., has removed his office to 12, Stratford-place, Oxford-street, W.1.

Battersea Power Station.

In connection with this building, a perspective drawing of which was published in our last issue, we are asked to point out that Mr. James T. Halliday, F.R.I.B.A., of Manchester, is associated with the design of the architectural features.

New Whitehall Offices.

Mr. Otho Nicholson has presented a petition from the City Council of Westminster against the Public Offices Sites Bill, which was down for second reading on April 1, and whose object is to alter the building line on the Embankment and to make other changes to facilitate the erection of the huge new Government offices in Whitehall.

Conversion in the Adelphi.

One of the most interesting conversions of a London office has recently been carried out at 2, Adelphi-terrace. Here are situated the offices of the *Christian Science Monitor*. The rooms are large, and the one occupied by the editorial manager contains the original bookcases designed for the house by the Adam brothers. Owing to need for more accommodation it was decided to divide one large room into three separate rooms with a communicating passage. As the large room has three equal sized windows it clearly meant one window per room. A division has been ingeniously made, providing borrowed lights for the large office in the centre. Mr. A. P. Starkey was the architect.

Paris Congress of the Arts.

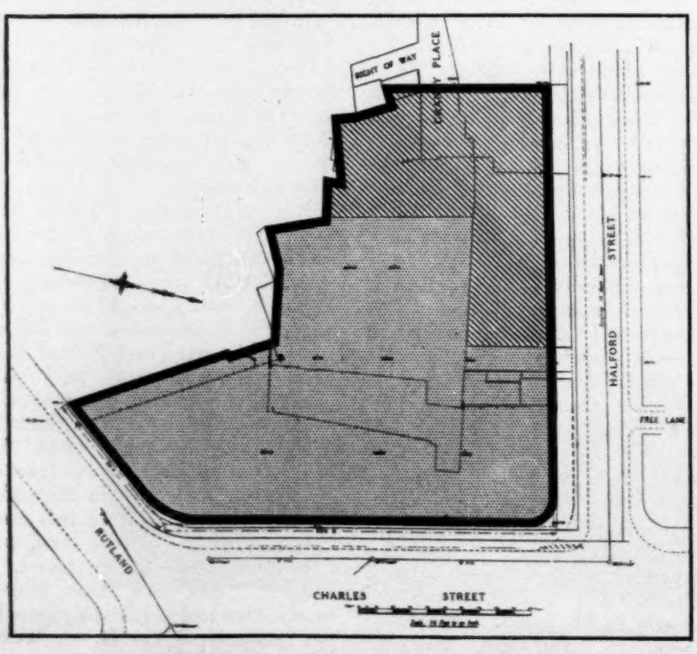
A congress on French architecture, decoration, sculpture and painting has been organised by the Syndicat d'Initiative de Paris and the Seine Department, to take place from June 1 to 27. Invitation to attend has been given to English architects through the President of the R.I.B.A. Since the membership of the conference is limited, members of the Institute who wish to take part are asked to send in their names to the secretary as soon as possible. A week of the conference is devoted to each of the sections—architecture, decoration, sculpture, and painting—and each week starts with a reception and conference, which is followed by visits to illustrate the trend of modern French development in the subjects concerned. The conference on architecture is devoted to the study of shops and that on decoration chiefly to ceramics. There is a membership fee of 50 francs which covers the expenses of travelling on congress visits. Special rates have been arranged with the railways and steamship lines for members of the congress to and from Paris.

Scottish National Library.

By 43 votes to 17, the Town Council of Edinburgh, on March 26, at a special meeting called for the purpose, decided to express disapproval of the decision of the Trustees of the Scottish National Library to place the new Library buildings on the site of the Sheriff Court. Bailie M'Kechnie, who led the opposition to the Trustees' proposal, said that it involved the demolition of the fine Sheriff Court-house building, and between a new building and another site a total expenditure of £140,000 in order that a comparatively small area of ground might be available for another purpose. The question was more serious than one of amenity. The important consideration was whether the ground space available would be adequate for a National Library. Surely the donors concerned would, if requested, allow reconsideration of their position if it could be demonstrated to their satisfaction that there were a more suitable site and other considerations. He urged that the advice of a competent and impartial committee should be taken.

Mr. Gumley, in moving a direct negative, argued that the Town Council had nothing whatever to do with this question, and said that opposition would delay work on two fine buildings, street improvements, and the wages and material involved an expenditure of between £300,000 and £400,000. The architects' opposition only came about when the Board of Works declined to give the plans for the Calton site out to open competition.

Bailie Given said that the Library Trustees, by their lack of effort to attempt to conciliate other opinions than their own, by their refusal to meet and give consideration to honest and friendly criticism from librarians and architects who had the right to claim to be considered experts in library buildings, and who, as such, had undoubtedly the confidence of the public, were causing not only uneasiness but strong feelings of resentment.



Proposed Corporation Offices, Leicester: Site Plan.

COMPETITION NEWS

Proposed Offices for Corporation, Leicester.

THE city of Leicester, in inviting architects to submit designs in competition for Corporation offices proposed on a site in Charles-street, have appointed Mr. E. Berry Webber, A.R.I.B.A., as assessor. Premiums of £300, £200 and £100 are offered, and it is the stated intention of the promoters to proceed with the work. Designs must be sent to the City Surveyor, Town Hall, Leicester, not later than Friday, June 26, and any question that competitors may ask must reach the same person not later than April 18. A deposit of £2 2s. is required. The site plan is reproduced on this page. We take the following from the issued conditions:—The site is a portion of a comprehensive scheme of street widening recently carried out, and the promoters desire to create a shopping centre. It has been stipulated that all new buildings should have a minimum height of 36 ft. from pavement to eaves. It is desired that the site should be developed as lock-up shops and offices. The whole of the street frontages, except the space allocated to Electrical Showrooms and entrances and exits to or from the offices, are to be utilised for shops. As far as possible, these shops should be laid out in units closely approximating 20 ft. frontage, each shop to have its own basement and lavatory accommodation. It is suggested that the Electrical Showrooms should be placed at or near the junction of Charles- and Halford-street, and that the entrance to the Public Rates Hall should be in Charles-street. Only part of the site is now to be built on. Accommodation required will be, besides shops, etc., the City Treasurer's Department, the City Electricity Department. Accommodation will also be required at a later date in this building for the Housing Department with a floor area of 7,200 super. feet. This future accommodation should be provided in the form of an additional story or stories, and competitors are required to produce a design which will admit of the easy addition of this story or stories.

Competitors must show future development approximately for offices on Halford-street front, 28,000 sq. ft.; workshop, etc., on the back land, 5,000 sq. ft.; yard space, 3,500 sq. ft. This suggested future development should be shown on the plans in outline only. The promoters desire that the whole of the frontages to Rutland-, Charles- and Halford-streets should be developed.

Proposed Medical Clinic, Bermondsey.

Mr. E. Stanley Hall, M.A., F.R.I.B.A., the assessor in this competition, has made his award as follows:—

First (£250).—Mr. Ernest Edwin Davis, A.R.I.B.A., No. 3 Studio, 142, Brecknock-road, London, N.7.

Second (£150).—Messrs. Nicol & Nicol, 117, Colmore-row, Birmingham.

Third (£50).—Messrs. Cackett, Burns-Dick & MacKellar, 21, Ellison-place, Newcastle-on-Tyne.

The designs will be on exhibition at the Town Hall, Spa-road, Bermondsey, S.E.16, from Friday, April 24, to Thursday, April 30, inclusive (the intervening Sunday excepted), from 10 a.m. to 8 p.m.

The assessor points out that there are good points in Nos. 36 and 7. Nos. 3 and 39 had good elevations, but their plans were not sufficiently good to warrant their inclusion in the first three places.

Proposed School, Swan-street, Netherton, Dudley.

The assessor, Mr. H. T. Buckland, F.R.I.B.A., has awarded first place in this competition, confined to architects with offices within 15 miles of Dudley, for a council school for 300 children at Swan-street, Netherton, for Dudley Education Committee, to Messrs. Webb & Gray, L.L.R.I.B.A., 300, High-street, Dudley.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Architects' (Registration) Bill.

SIR,—Certain statements of facts were made by me in your issues of March 6 and March 20. It would be idle to pretend that these statements did not imply that the Royal Institute of British Architects had used, was using, and intended to use an educational instrument entrusted to them by Charter *also* for the political purpose of consolidating the profession of architecture in the membership of the R.I.B.A., and under the control of its Council.

Attempts to gainsay those actions and intentions of the R.I.B.A. are equally idle. Although I have spared the R.I.B.A. in the use made of evidence in my possession, it will be observed that the unfortunate man who lent his name and extreme acerbity to a Press attack upon my accuracy, is now reduced to lending his name to slander and abuse.

It would be idle to pretend that these statements of mine did not imply a certain lack of frankness in the Royal Institute of British Architects upon a matter of public interest. That there has been a lack of frankness is also not to be gainsaid.

The extraordinary thing is that such statements have so upset the Royal Institute of British Architects. For, is it not the fact that the R.I.B.A. holds that these matters are the private concern of their domestic affairs, and do they not assert that King William IV gave them now and for evermore complete and undivided authority over the realm of architecture wherever they fix its borders?

So far as correspondents in your issue of March 27 attempt to deal with facts, I will correct their errors after Easter, if it is then necessary to pursue the matter. Meanwhile, may I suggest that it would have been equally true to form, just as defensive and not so offensive, if members of the R.I.B.A. who have disputed this matter with me had said:—

You're very naughty:
We're very haughty,
So mind you don't do it again
You're so barbarian;
We're so Ribarian,
Your name even fills us with pain.

We're bent on our arts,
And hate for our parts
All those who would face us with facts.
We care not for Bills,
And seek but our wills
Enforced by monopoly Acts.

We've just called to say—
We don't mean to stay
To argue this matter at all.
We merely gainsay
Whatever you say—
You might as well talk to a wall.

Don't say you've not heard
The Law is our word
Entrusted to us by a king,
And Maison Conduit
Does not find it meet
To be questioned in anything.

Well, now that you know,
Perhaps you will go,
Leaving us and *our* Board alone.
And though you've found out,
We *dare* you to shout:
We're killing two birds with one stone.

P. J. SPENCER,
Secretary, The Institute of Builders.

The Board of Architectural Education.

SIR,—The attack recently launched by Mr. Spencer against the Board of Architectural Education may lead to a serious misunderstanding unless his statements are corrected. I write as the representative of the Headmasters' Conference on this Board; I have occupied that position since 1925, and have been very much struck, when I have attended meetings of the Board, at the breadth of view expressed and the consideration given to educational interests outside the purely technical field of architecture. The decision of the R.I.B.A. some years ago to make this Board as widely representative of educational interests as possible is doing, I am convinced, a great deal for the cause of architecture in this country, and is also helping secondary education generally.

M. L. JACKS,
Headmaster.

SIR,—For some years I have represented Oxford University on the Board of Architectural Education, and I have been much struck with the sympathetic and generous consideration always extended by the Board to the views of those of us who are not members of the Institute.

Winchester. R. GLEADOWE.

Modern Church Building.

SIR,—I should like, with your permission, to add to the letter printed in your issue of the 6th ult. a postscript—withheld for fear of overweighting my communication. That letter simply propounded a logical case for the Gothic revival in theory, apart from the question of actual practice. On this last point, however, Professor Lethaby had mentioned at the outset of his article three names as being, apparently, representative of the movement in the second half of last century. To this choice of exponents I would venture to take exception, seeing that these architects, however notable, were mainly associated with a very severe and largely Continentalised type of design—the vogue of which is generally held to have wrought much harm to the movement and to its public credit. But if for these names one should substitute those of Bodley, Bentley and Pearson—and it would be easy to add others—we should get a very different and, I submit, far more favourable impression of the Revival, which is entitled to be judged by its best fruits. Such stately fabrics, for instance, as St. Augustine's, Pendlebury (Lancs) and St. Augustine's, Kilburn, with its lordly steeple, the exquisite Church of the Holy Rood at Watford, and—to name the work of a fourth master—the noble choir and crossing of the Cathedral-like St. John the Baptist at Norwich, these are assuredly "things of beauty and a joy for ever"; no matter what *a priori* arguments or theories they may incidentally controvert by the fact, and this, after all, is a practical test.

London. W. RANDOLPH.

"King's Roll" Contracts.

SIR,—I was interested to see in *The Builder* recently two paragraphs relating to what is becoming a controversial question, namely, the insistence of certain public authorities upon firms tendering for contracts holding membership of the King's National Roll. A short recapitulation of the facts you print is necessary. The London County Council, in inviting tenders for road repairs in Essex, accepted a tender at £2,309. This was not the lowest tender as another firm tendered at £1,588—£721 lower—but was not eligible as it did not comply with the Council's conditions requiring membership of the Roll.

It may be asked whether or not the time has come when this practice may be discontinued. If there is a tendency for the King's Roll to defeat the real object of inviting competitive tenders, as has been alleged, then it is against the interests of the community, of which ex-Service men are a part, that prices should be kept up and building or other labour-employing enterprise restricted.

This must not be construed as an attack upon the rights or privileges of those who played their gallant part in the War. The questions asked are: firstly—Are the interests of disabled men really being served by the practice? secondly—Are these men getting the full benefits that employers appear to be gaining from this preference?

SENEX.

"THE BUILDER" DEBATE.

XXXVIII.—EXEMPTION FROM THE FINAL, R.I.B.A.

"That the policy of permitting a five-year course at certain of the Architectural Schools to exempt candidates for the Associateship from sitting for the Final Examination is a bad policy which should be reversed."

SIR,—I have very little hope that the action which this motion suggests will ever be taken, because I recognise that it would strike a blow at the school system, from which it would hardly recover to its present condition. But I am so convinced that great harm has been done by the policy about which I complain, that I should be willing to risk a result which the pure educationalist might imagine to be disastrous.

The purpose of an academical qualification is manifold. It is to some extent a reward for labour; evidence of successful study; and an incentive towards corporate membership. In each of these three objects, the schools may make a legitimate claim. But in the case of this important profession of ours there is yet another reason for the qualification. It is that the public may have some sign that the man who professes competence in architecture is a man who may be entrusted with the responsibilities of building. Now, the efficient architect must be a man of many parts. He must be trained in the science of building; his taste must have developed along a certain line of study; he must know the elements of professional practice; how to draw up a clear and complete specification, and draw a clear and complete set of working plans. He must know the nature of materials and the strength and potentialities of structural members, and must have acquired skill in the science of planning. All these things may be taught in the class room and the laboratory, and there is no reason why the schools should not profess to turn out men equal to these qualifications. But it is also equally true that a man might be academically equipped in all these particulars, and yet, lacking one other qualification, fail completely to control building with skill or success. That one thing lacking would be the great quality of experience.

The ability of constant "readiness" for the exigencies of building comes only with experience of its practical pitfalls and difficulties. The genius for getting the best out of builder and operative by striking the happy mean between fussiness and slackness, comes also out of the hard school of experience. And yet I should be very loth to trust the most be-lettered and be-medalled man on earth with an important building commission unless he were equipped with these qualities in addition to much book learning. I am in favour of granting some concession to the school-trained student towards his course of qualification. The schools have much to offer the student which is denied to the purely office-trained man; but I consider that the old pre-War practice of allowing exemption from the Intermediate Examination only, was a far safer course. Then it was almost impossible for a student to qualify for his Associateship unless he had had considerable office experience covering all branches of practice. Now it is possible for him to do so after a ridiculously short time in touch with the actual business of practice, and many candidates pass through that brief period in a very perfunctory manner, and get the minimum of value out of their practical experience, such as it is.

The result is that, whereas the public are entitled to expect competence from the men who have been granted a diploma, they are often let down by engaging immature practitioners. And the natural corollary to that is that the qualification itself becomes suspected, and many holding it with all the qualities that make the complete architect have to suffer for the sins of the few. This cannot be good for the profession, and the sooner matters are mended the better. They may never be mended, of course, but at least let us pretend for the moment.

POSITIVE.

NORWICH FIRE STATION COMPETITION

By A. G. BERRY.

When I was hit in France I was taken out of the line by a corporal of the Red Cross, one of those men who call themselves non-combatants, but who go into the middle of the fighting to get the wounded out. And now, fourteen years later, Corporal Livock has won the Norwich Fire Station competition, and I have to criticise his drawings.

Mr. Robert Atkinson, the assessor, congratulated the Corporation of Norwich on the general excellence and standard of the designs, and these show that the Council can safely confine the larger competition for the new Civic Centre to Norfolk and Norwich architects, with the sure knowledge that a design will be produced which will be worthy of the wonderful site overlooking the market-place in the old city.

The winning design (No. 4), by Mr. Stanley Livock, has a straightforward plan, so simple that it is a wonder everyone did not think of it, and this is not infrequently the case with a winning design. It might be called "The cleverness of simplicity."

The essential organs of a fire station are on the ground floor, and if the winning ground-floor plan is compared with the other premiated plans, it will be seen that it is superior in the placing of the following rooms:—Engine-house and ambulance bays, drying-room and lavatories, garages, workshop, hose tower, exercise yard and side entrance.

The engine-house has eight bays for fire units and two for ambulances. The fire unit bays have direct access from the yard, with the two ambulance bays at the side of the building. The lop-sided appearance of the elevation caused by the big doors not being central is obviated by setting the two ambulance bays back to the line of the duty-room. This difficulty of centralising the big doors must have worried the competitors, as only two other plans (both by the same competitor) show more than nine bays and some only seven.

The sliding poles are conveniently situated at each side of the engine-house, so that firemen can have a clear run to their engine from both sides across the rear of the machines standing in the bays.

The drying-room is as close to the engine-house as possible, with the lavatories on the other side of the staircase landing. This is a most convenient arrangement, and is a good illustration of the practical nature of the winning plan,, but two doors and two windows are excessive in a drying-room, which requires to be closed up on the principle of an Aldershot oven.

The exercise yard is as large as could be obtained on the site, with no obstructions and with plenty of room for manœuvring escapes. Four of the six garages are placed opposite the yard entrance, with a straight-out drive and an easy turn into the street. In these days of motor-bandits, a quick "get-away," such as this plan allows, seems to be essential for police cars, but only one other competitor has thought of it.

The hose tower is well situated, so that an engine can stand alongside, or escapes be run up it for practice, without interfering with traffic through the yard. The workshop is placed so that engines can be taken straight across the yard to it.

In the upper floor plans there are small defects; in each of the four flats the only access to the bedrooms is through the living-room or the kitchen, and a small hall should be schemed here, if at all possible.

On the first floor the sliding pole from the second floor is placed so close to the pole to the ground floor that a fireman landing on the first floor might fall down the well-hole to the engine-house, and a fireman landing on his head is not so useful as one landing on his feet.

The only entrance to the recreation-room is through the messroom or the reading-room, and a partition might be placed with advantage under the ceiling beam of the reading-room to form a corridor.

The kitchen and service next the messroom is well planned and will give the quickest results. The cubicles on the second floor are well arranged and of good shape. The lavatories are convenient and the symmetry and balance of the ground floor is carried through all the floors.

The elevation to Bethel-street (the only important one) is plain, well proportioned and modern, and I feel that our Flemish ancestors in Norwich would have appreciated the diaper work of dark headers indicated on the brick front. The success of this depends on the colour of the bricks. The hose tower in the yard has an appearance of strength allied to refinement, but I hope the engine house doors will be given some glass, so that they can be closed in cold weather.

The draughtsmanship of these drawings is very good indeed and, whilst this can be said of most of the other competitors, the rendering of the plans makes them extremely easy to read and easily the best.

The second premiated design (No. 1), by Mr. Stanley J. Wearing, has eight of the nine bays in the engine house with through access to the yard, but the end bays have an awkward approach, owing to the jutting-out workshop. The drying-room is in a poor position in the basement. The garages are at the side of the exercise yard, which is a very useful size, but the hose tower is placed next the side entrance, so that traffic out of the yard would be impeded if escapes were standing at the tower. The elevation is attractive, but the dual effect of the two stone bays might not be very happy.

In the third premiated design (No. 2), by Mr. Clifford H. Dann, only six of the nine bays have through access to the yard. Five garages open out into the side street, but it is a question if cars could turn comfortably into the street. The hose tower in the centre of the yard is not only an obstruction to traffic, but would be difficult for escape practice. A fourth story to take the flats makes a very high building, the apparent height being decreased on the elevation by the introduction of a band below the third floor windows. This band, being in brick, would not have the desired effect on the actual work.

The fourth design (No. 7), by Messrs. A. F. Scott and Sons, provides only eight bays in the engine house and no drying-room at all. The garage accommodation is for three cars only, and these must drive all round the tower to get out. The tower is in the centre of the yard, as in the third design, and the spare ambulance is awkwardly placed and can only get out of the yard by reversing. This plan has a beautiful workshop, which might be transposed with the garages with advantage. This is a very good, well-proportioned elevation, eminently suitable to Norwich, and I am not certain it is not the best elevation sent in.

No. 9 (Messrs. Morgan and Buckingham) has a well-proportioned tower placed in the best position at the back of the yard, and has well-planned flats. The top story on the Bethel-street front is set back 8 ft. from the main face of the building. This plan suffers from having only seven bays in the engine-house, necessitating some of the fire units being placed behind others. The entrance to the flats is rather too lavish.

No. 5 (Messrs. F. W. Skipper and Son) has the tower in the same position as the winning design, and this would be a good plan if the garages and the workshop were transposed. The flats are the best in the competition. The engine-house has ten bays, seven with access to the yard; but the garages have their backs to the side street, so that they must reverse before they can get away.

No. 6 (a second set by the same firm) also has ten bays, with through access to them all; but good, spacious planning is gained by having four floors. One sliding pole lands in the middle of the duty room.

No. 3 (Messrs. Boardman and Son) has eight engine-house bays. The duty room would be improved by the omission of the corner lobby. The lavatories are too small; the hose tower is placed so as to impede the side entrance; and bedrooms in flats are approached through the living-rooms.

No. 8 (Mr. E. J. Tench) has a cramped exercise yard, and the sliding poles are a long way from the engines. The constructional columns in the engine-house would not please the chief engineer, and the stone front is not quite in keeping with the traditions of Norwich.

Many competitors have placed the hose tower in the centre of the side street elevation, but this is an awkward position, as it is next the side entrance, and this elevation to an insignificant backway is not worth ruining the plan for.

The majority of the competitors seem to think the drying-room is of little importance. From the point of view of the comfort of the firemen it is the most important room in the station. When an engine returns, with the men soaked with icy water, it is not fair to ask them to run down to the basement to leave their clothes and run up again to a warm shower in the lavatories. The ideal method is as shown on the winning plan. The firemen jump straight off the engine into the hot drying-room, throw off their wet clothes on to the floor (the duty men will hang them up), and run straight out into the lavatory. Sometimes the men are too numbed with cold to walk more than a few steps, and they want that hot bath at once.

EXHIBITION NOTES

Even more than usually attractive are the galleries of the Royal Institute of Painters in Water Colours, with its illustrated catalogue of the Centenary Exhibition, March, April and May, 1931. The walls are hung with a display of some five hundred drawings, and though nothing strikes one of outstanding significance, there is a large display of capable work. The president, Sir David Murray, is fortunate in the subject of his large picture, which conveys much of the charm of his native land, Scotland. Several things may be at once selected as of special merit, such as Mr. Ackermann's "Sussex Harvest" (427), Mr. Terrick Williams's "Boats" (323), and others showing his refined colour effects, several admirable drawings by H. C. Brewer, of which the best is the charming drawing of "St. Gillers, France" (344). Amongst the smaller drawings is a delightful little piece by Leonard Squirrell of "Whitby" (29). Mr. H. Richter's fine decorative picture, Mr. Leonard Richmond's "River Danube" (243), are amongst the several noticeable things.

The Suffolk-street Galleries.

There will be found a certain number of excellent works at the Suffolk-street Galleries. The Royal Society of British Artists is now holding its one hundred and fifty-seventh exhibition, which makes quite a brave show, though there is a very generous latitude as to the acceptance of pictures which tends to lower the average quality. The President, Mr. P. A. De Laszlo, has a vividly real portrait of the Hon. David Bowes-Lyon, and some of the telling colour work which one associates with Messrs. Leonard Richmond and Fred Foottet is again in evidence. An excellent piece of colour is the "Goat Boy" (269), by Dorothea Sharp, and another good example of colour is the "Port Gaverne" (261), by Constance Bradshaw. The well-composed picture by Alex Maclean (247); "The Wetterhorn" (232), by Arthur Spooner; an excellent drawing of "Moonrise" (173), by St. Clair Marston; and the sparkling little landscape (148), by Leonard Richmond, are amongst the good things on the walls.

THE QUILLER LETTERS

THE OUTLINE OF AN ARCHITECTURAL EDUCATION.

Annotated by M. A.

[The names used in the Quiller Letters are all fictitious, and do not refer to any living person.]

XIII.—SETTING.

[July 14, 1909—a letter from Watcher to Quiller. That to which it is in answer is missing from the file, but it is possible to infer the contents from the following.]

My Dear Rex,—You are getting enough experience now to make some of your own major decisions, but I am sufficient of a fogey to be glad that you come to me for moral support. I agree with you that you may just as well leave the Guild so far as the evening school is concerned. I have tried not to influence you against it, and I think you have arrived at your point through your own mental processes. I entirely agree with you that there is an obsession for the superficial "show," and that much of the study through which the ordinary student must pass before he finds his own soul, is denied him, lest he spoil the show. In your case I expect you have been handicapped by being an outside stranger, and not arrived through the day school, and though I do not suppose any of the staff would have willingly given you the cold shoulder on that account, it is but human that they should nurse their own young a little more affectionately than the others.

I approve also your resolve to enter the R.A. schools. The entrance examination is not too stiff for you, though it is none too easy. In that place you will meet most of the earnest students of your generation, and have the opportunity of worrying your way through a number of ambitious schemes. In addition, you will have an educational privilege which no other band of students share: that of meeting month by month those practising architects who have gained the highest honours in the profession—the Academicians and the Associates. Leroy, the master, is doing a lot of quiet work at the school, and I like to think of you as being under his care.

After all, architectural design cannot be taught at all. It can only be practised; and masters who profess to conduct classes in this subject must content themselves with just spreading an influence. All other subjects in which you will be examined for your Final, can be taught and crammed. So seize any opportunity of putting yourself in the way of outside personal influence. Make the most of your contact with the R.A.s, with Leroy, and with Winsladen. And even I may be able to help, too. Do not attempt to reconcile a multitude of counsellors, but be pervaded with the common factors of principle which you will be able to trace, mixed up with their personal fads and fancies.

I agree that you should begin thinking about your definite preparation for the Final. I should not be in a hurry to find a coach yet awhile, but you can begin an intensive system of study. The method I found to be most useful was to select my text-books for each subject, and take copious notes and sketches from them. When these have been done, it is necessary to go through them again and collect, correlate, and compress the original notes. Depending upon the thoroughness with which the latter has been done, it may then be possible to compile a series of brief summaries of each, and finally a little card of key notes upon each which can be readily memorised. The latter are invaluable as a last fleeting reference before sitting, while the fuller notes are valuable right through your career.

It may be that you will find other methods more suitable for your temperament, but I think you will find some such scheme as the above a useful one. At any rate, work upon some definite scheme and stick to it.

I doubt whether you will be fit to sit next summer, but there is no harm in aiming there. If you do decide to do so, I should think of a coach about next February. I am glad things are going so well at the office, and to hear good reports of you from Winsladen.—Sincerely yours, R. B. Watcher.

[Bearing upon the above is the following from Rowanshaw, dated August 15, 1909.]

My Dear R. B.,—Quiller tells me he is going to leave us in the autumn, and I write to you, knowing you have some influence with, and interest in, the young man. It will be an awful pity. He has not shone, so far, but shows some promise, and so soon as he has shaken off the influence of his unfortunate start he may become quite a promising student. At present he prefers to do things himself in his bad old way, to being shown how to do them rightly, and a certain amount of friction has resulted. Last term he simply ruined two very creditable sets of drawings by rendering them in a dull and tasteless way, although Benson, who takes his year, had warned him to bring them up for colouring in the right way. The boy must have some sort of guidance, and I do not know where he can get it better than at the Guild. Perhaps you will have a talk to him, and get him to reconsider his somewhat hasty decision. I know you have no grudge against the Guild, in spite of your frequent criticisms, and it does the place no good to lose a student like this

I hear Prince's and Federal are definitely to be amalgamated next year, and to become chief rivals to the Guild. Well, there is room for us both; and I expect their ambitions will only add to the support we need to bring about the reforms which I am driving for. It is time, and more than time, that this profession came in a position to offer a complete training for qualification, in line with others. Young men have suffered the haphazard chances which office study has offered for long enough, and it is only fair that we should be able to put before the entrants into our profession the prospect of a definite term of years during which average talent may be expected to mature.

This new development in the scholastic world brings this one step nearer realisation, and, if you would face the facts, you would bow to the inevitable and try to tune your mind to the new note that is sounding. But do not forget Quiller, please.—All the best, E. R.

[Watcher's answer to the above is dated August 20, 1909.]

My Dear Edward,—I see well enough you have a scheme behind your nonsense, and one not entirely to be despised. But I hold very strongly to my views, that whereas the schools may save the student many profitless crammings upon subjects demanded of the examinees, and forgotten so soon as examination days are passed, they can never usurp the valuable educational influence of the office.

I think you professors are inclined to forget the purpose of an architectural qualification. You look upon it as the natural climax of an academical education, in line with the qualifications of other professions. It is really a lot more than this, for it is surely a mark of proficiency whereby members of the public may judge of the fitness of the qualified to be entrusted with the responsibilities of directing a building operation and guarding their interests.

So long as students come as strangers before a board of examiners who are themselves practising architects, well able to judge between the pure theorists and those who have learned by personal experience, so long will the passing of the Final indicate the passing of the student into a recognised state of fitness for practice. That must always remain distinct and aloof from the schools. And that is the point at which our views definitely diverge.

I shall not help you about Quiller, because I am sure that his temperament and the Guild atmosphere do not mix. He would not develop along the lines you desire, nor would you direct him along the lines within which he will find his feet. He is having a shot at the R.A., and I believe he will make good there.

I suppose you and Strathsay will now come on the same staff with some sort of equal seniority. I shall expect sparks to fly, but you are both such thorough good sports that out of your incongruous mixture should arise some first-class tuition.—Yours ever, R. B. W.

[The next letter of interest among the files is the following from Quiller, which records some impressions of the R.A. Schools. It is dated May 4, 1910.]

My Dear Mr. Watcher,—The Virginia Water work is gradually petering out, and the staff is dispersing one by one into other offices. After next week there will be only three paid assistants left, with myself and the other pupil, and we shall be a very small party. I am sorry to part from a very jolly crowd, but I am already feeling the benefit of having fewer seniors above me, as I have been given charge of a very nice little job in the East End, which should prove very interesting. I had my first interview with a district surveyor last week, who was gentle but firm with me, and I am a wiser man for the experience.

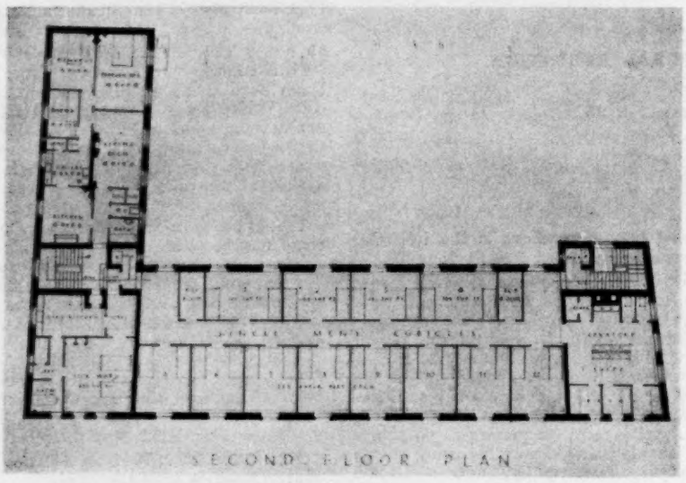
Evening work is going strong, and I find the Schools most interesting, especially meeting the Academicians. Of the latter, Mr. Crowcher has been the most instructive, having taken great pains with us, besides setting a very interesting subject. Sir Brian Houghton is a little dictatorial and hurried, while Mr. Brentford is cordial but superficial; in fact, he gives one the impression of aiming to work off one humorous remark upon each student and being thoroughly content when that is done. Mr. Leroy, the master, is most painstaking, and I have learned a great deal from him alone. He tells me that there is no doubt that the School subjects will be accepted in lieu of testimonies for the Final, which will simplify my preparations considerably.

I am postponing my sitting for the Final until the September session, as I do not really feel to be ready by July. Strathsay has promised to coach me finally for the next few months, and I am going to avail myself of your kind offers to help in the good work from time to time.—Yours sincerely, Rex Quiller.

[The following from Winsladen to Watcher records another milestone on the road. It is dated September 21, 1910.]

My Dear Watcher,—I have just heard privately from the Institute that young Quiller has scraped through the Final at the first sitting. I consider this a most creditable performance, and I am sure you will feel highly delighted. It is almost embarrassing to have one who is still an articled pupil arriving at this highly qualified stage, but I do not think he will lose his head or imagine he has learned all there is to be learned. I am, however, promoting him to a salaried state at once as a mark of recognition, and, from what you tell me of the family finances, I imagine this will help matters to run smoothly.

I think he knows very well how much he owes personally to you for your help and sympathy upon the various stages of his qualifying period, and I, too, must add my thanks to you for having supported me so nobly in my efforts to turn him out well. It does seem to me to vindicate our joint opinion that there is nothing to hinder a talented pupil from finishing his education efficiently and successfully in the atmosphere of a busy office, but distinctly the



Norwich Fire Station Competition: First Premiated Design.

MR. STANLEY G. LIVOCK, F.R.I.B.A., Architect.

reverse. I am assured that it was Quiller's assurance at the Oral which carried him through, and equally sure that that assurance was derived from the actual contact which he has had with all the branches of architectural practice. Such things can hardly be gathered in a school atmosphere, and not even he could have done it without the rough and tumble of the actual jobs which he has virtually controlled.

His future has yet to be made, of course, and I am a little concerned about that, because I cannot help feeling that he lacks some of the social instincts which are halfway towards successful practice. He has yet to mature, however, and time may correct the fault. In any case, a more general experience in as many offices as he can find time to enter will do him no harm before he begins to think of paddling his own canoe.

I think you and I might resolve to introduce him at the first available general meeting, don't you?—With all good wishes, yours ever, J. D. W.

[We approach the last letters of the file dealing with the education of Quiller; and of several remaining, the following from Quiller may be given as a suitable ending. The letter is upon noteheading upon which the name of Rex Quiller, A.R.I.B.A., in neat script type appears, with the address of No. 28, Great John-street, Gray's Inn, W.C.1. It is dated September 10, 1911.]

MY DEAR MR. WATCHER,—I have taken a share of these rooms with my friend Bright, where we live and feed after a fashion, and live in hopes of picking up an honest spare-time penny or so. A little "ghosting" and an odd job or two from "Sands" help to eke out the salary of chief assistant to Mr. Winsladen, whose pupil I ceased to be last week. I would like you to see how we are fixed here when you can spare an evening, and talk over the mistakes and successes of the years you have watched so carefully in my interests. I feel you have advised me helpfully all through, and in many of the things I have still to learn I shall turn to you from force of habit as well as from an instinct, which past experiences have encouraged.

I have no fear whatever as to the future, remembering what you first told me, that the man who knew his job could be sure of a living of sorts; and we architects do not ask too much of life.

If Rex Quiller becomes a success, you have much to pride yourself upon. If he remains the obscure figure he seems likely to remain, you have nothing to reproach yourself with. In either case, he remains your grateful charge and sincere friend,

REX QUILLER.

ILLUSTRATIONS

PLATES.

New Head Office of the Westminster Bank.

The new head office premises of the Westminster Bank in Lothbury are, so far as the exterior is concerned, now complete, and we give this week two perspective drawings of the main frontage.

Messrs. Mewès and Davis, F.R.I.B.A., are the architects.

Norwich Fire Station Competition.

A criticism of the designs submitted in this competition is given on page 610. We illustrate this week the first and second premiated designs, by Mr. Stanley G. Livock, F.R.I.B.A., and Mr. Stanley J. Wearing, F.R.I.B.A., respectively.

New Medical Clinic, Bermondsey.

The assessor's award in this competition is given on page 608. The first premiated design by Mr. Ernest Edwin Davis, A.R.I.B.A., which we illustrate this week, a well-planned and carefully thought-out scheme, has been prepared in conformity with the specific requirements laid down in the instructions to competitors. The lay-out of the block has been designed to fulfil the important requirements. It should be here pointed out that the building owner against the north boundary had a right to build to any height, and this had an effect on the plan.

The elimination of internal areas has provided the clinics and corridors with the maximum possible light and cross ventilation from outside sources.

There being a large daily attendance of patients, it was considered advisable to plan the chief entrance for pedestrians on Tower Bridge-road, as it is the main access road to the clinic and of sufficient width to cope with the traffic.

The entrance for patients arriving on stretchers, in wheel-chairs, and in perambulators is planned on Purbrook-street, there being a glass-roofed entrance with accommodation for 100 perambulators and a forecourt where ambulances may unload out of the route of other traffic. There is also provision for parking staff cars. The exits are arranged to discharge the patients into Purbrook-street, within easy access of the perambulator shelters.

The maternity and child welfare clinic has a separate entrance in Purbrook-street, adjacent to the pram shelters, with an exit through the latter for convenient access to the perambulators. The staircase hall is placed centrally in the block, and contains the main staircase and two lifts, each large enough to take a full-size stretcher and six persons.

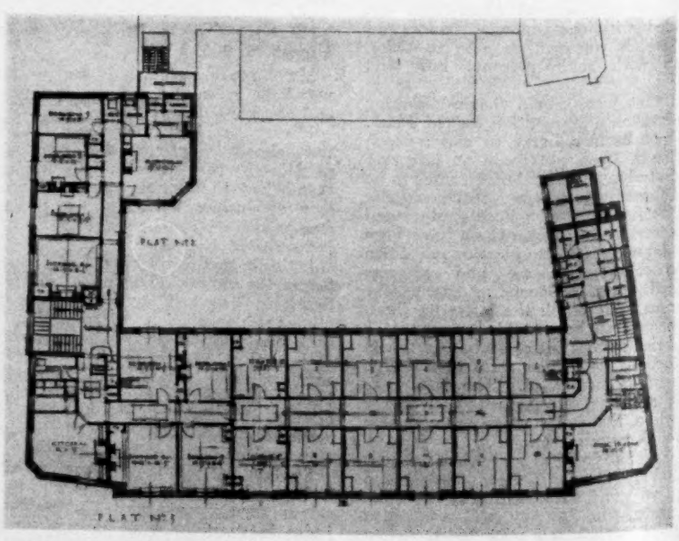
The waiting-rooms to the various clinics are entered directly from the staircase hall on the respective floors, and are at the entrance to the clinics they serve.

The entrances and exits from the clinics have been carefully studied, and are indicated on the drawings.—The X-ray department is a single story building, and is connected to the staircase hall on the ground floor by means of a covered way. The almoner's office and main office are planned near the entrance, so as to be readily accessible by the patients.

The construction and planning provide that future modifications and alterations may easily be achieved without affecting the general scheme. It is considered that future extensions should be in the form of an additional story (or stories), which could be extended on either side of the central staircase as requirements dictate, without affecting the light and air to the lower clinics.

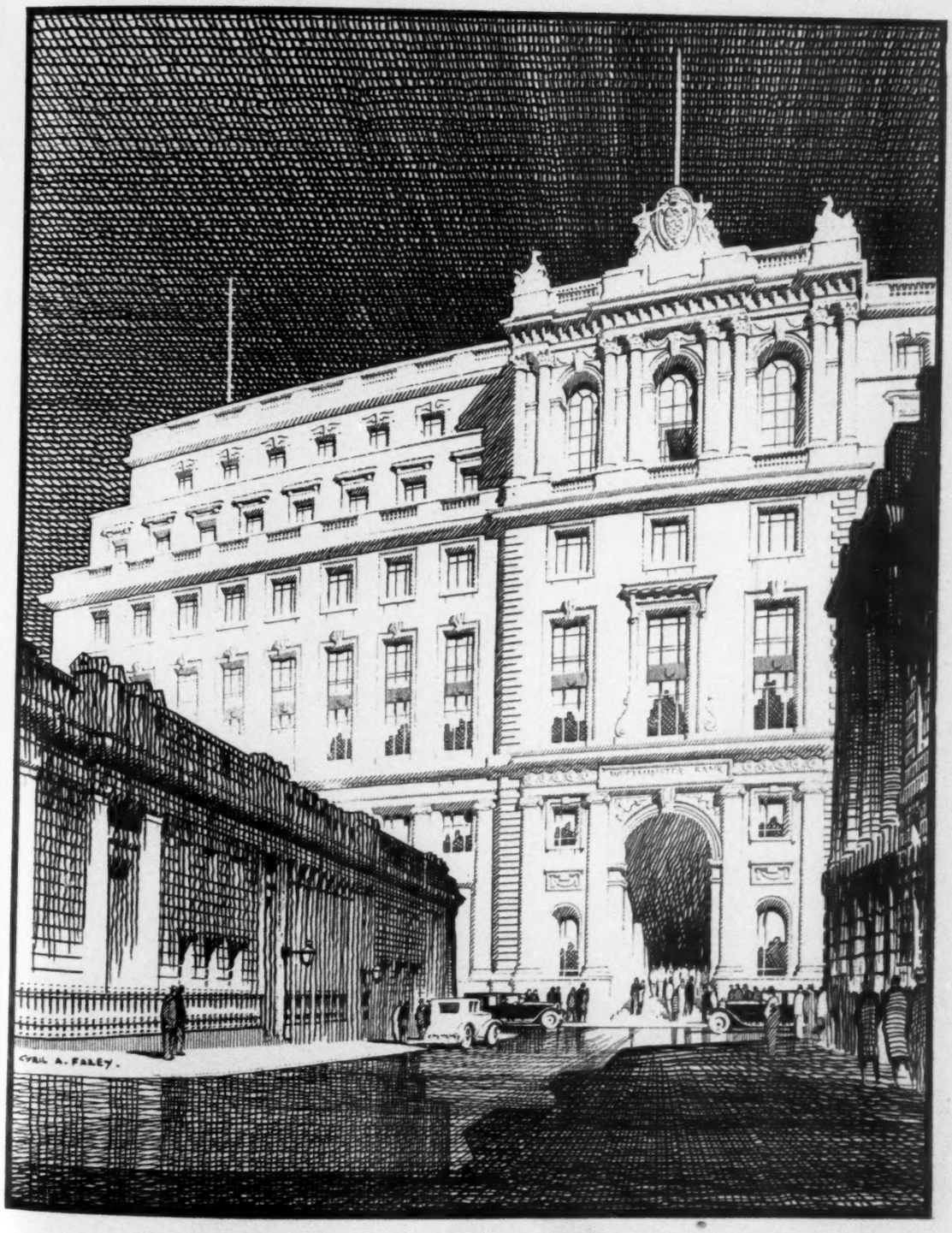
The building, where more than one story

(*Continued on page* 634.)



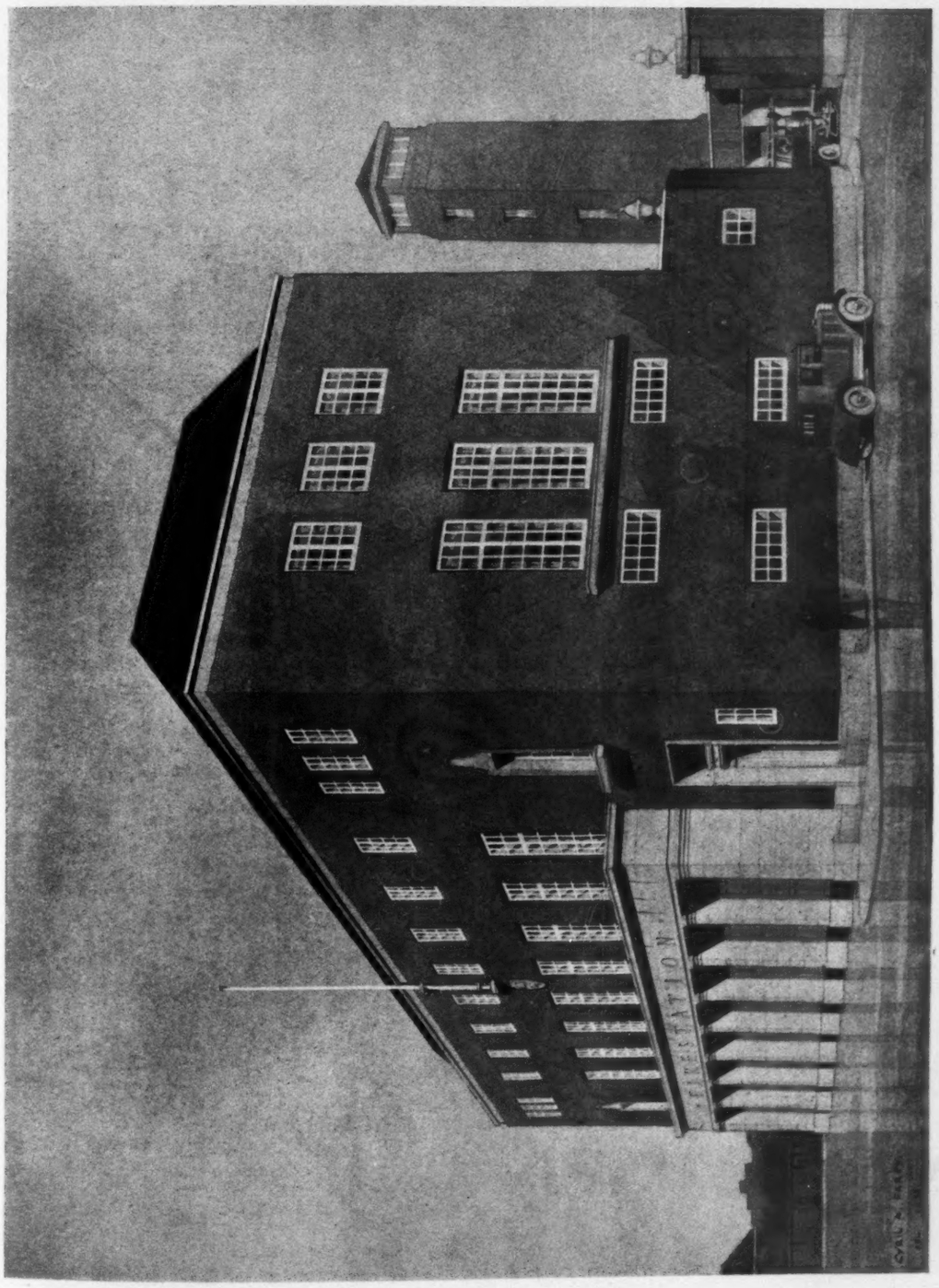
Norwich Fire Station Competition: Second-Floor Plan, Second Premiated Design.

By MR. STANLEY J. WEARING, F.R.I.B.A.



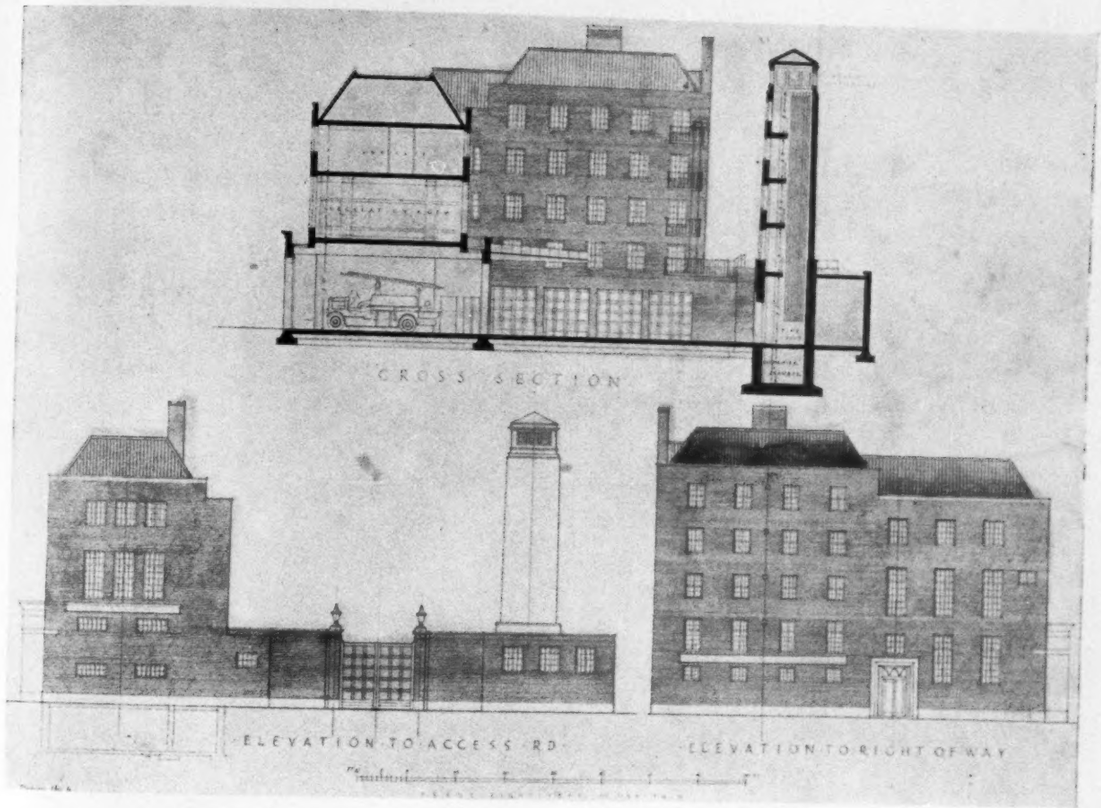
New Head Office of the Westminster Bank, Lothbury, E.C.

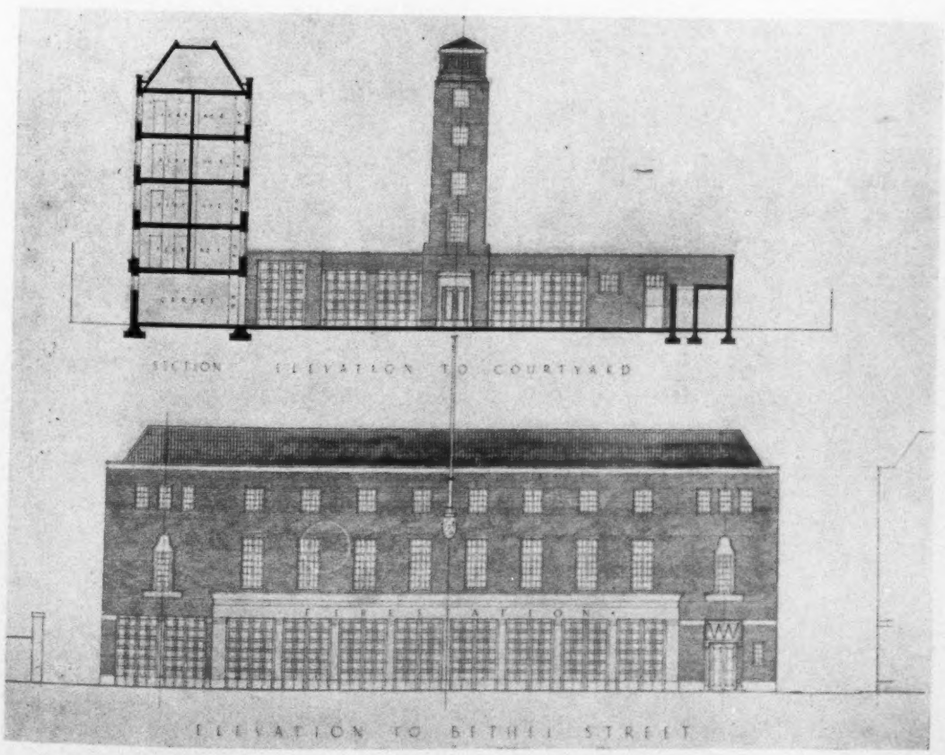
MESSRS. MEWÈS & DAVIS, F.R.I.B.A., Architects.



Norwich Fire Station Competition: First Premiated Design.

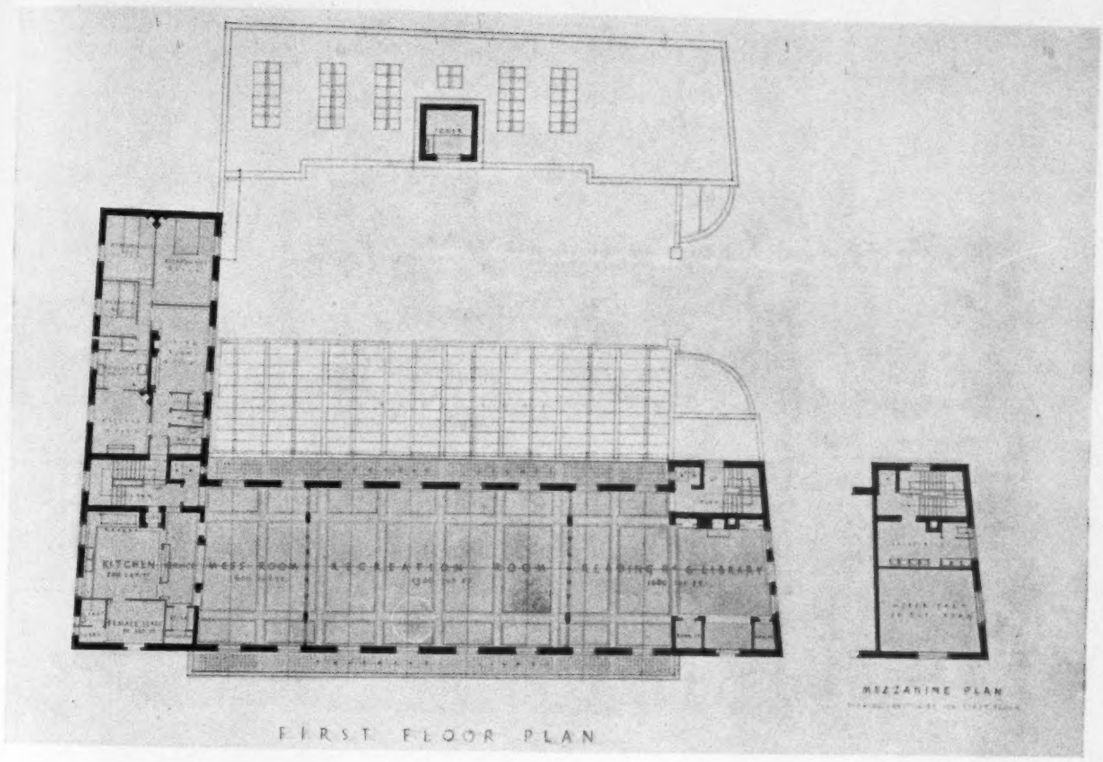
Mr. Stanley G. Livock, F.R.I.B.A., Architect.

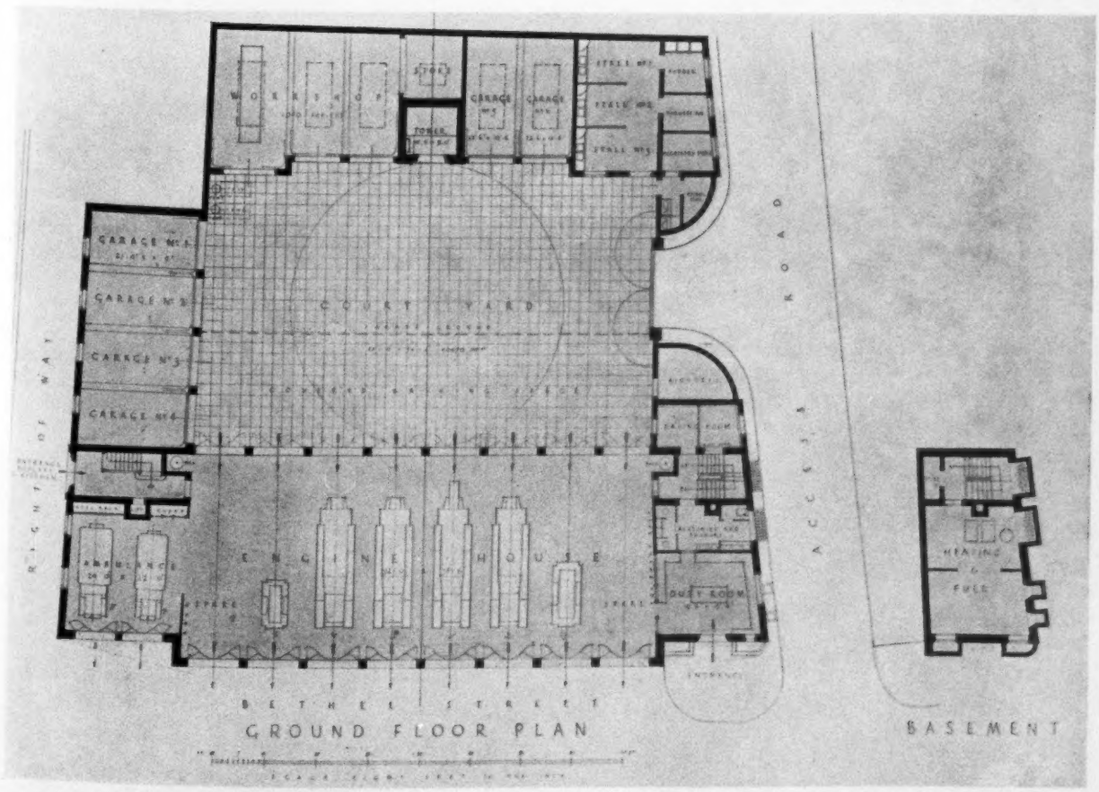




Norwich Fire Station Competition: First Premiated Design.

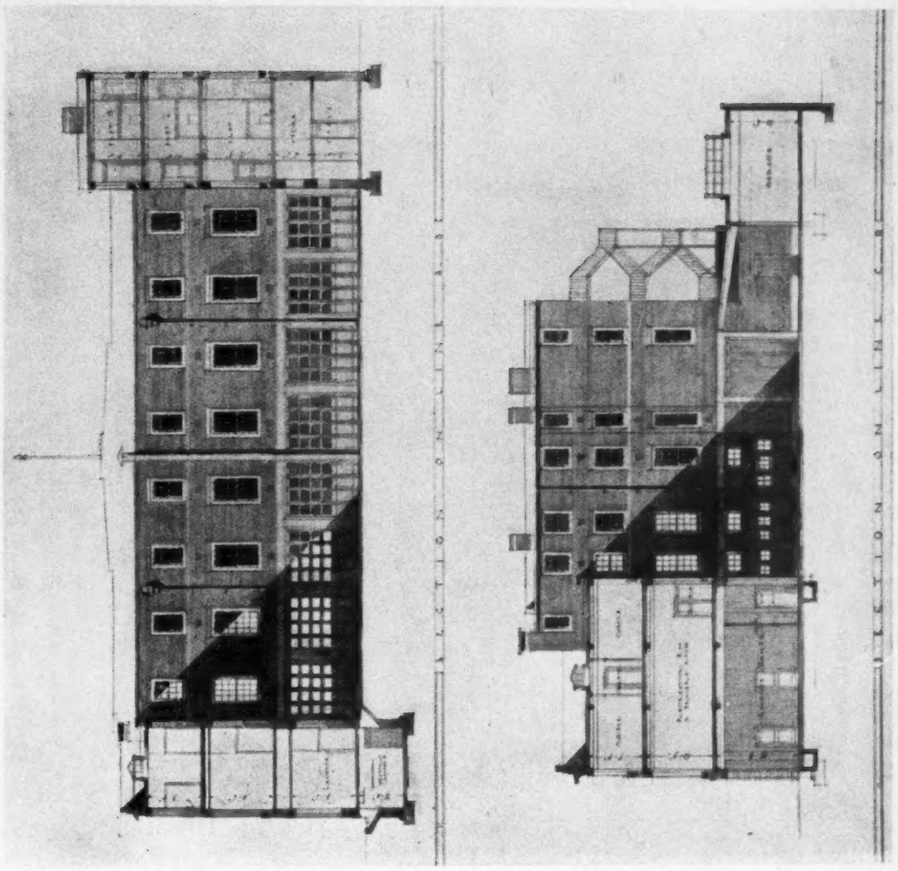
Mr. Stanley G. Livock, F.R.I.B.A., Architect.

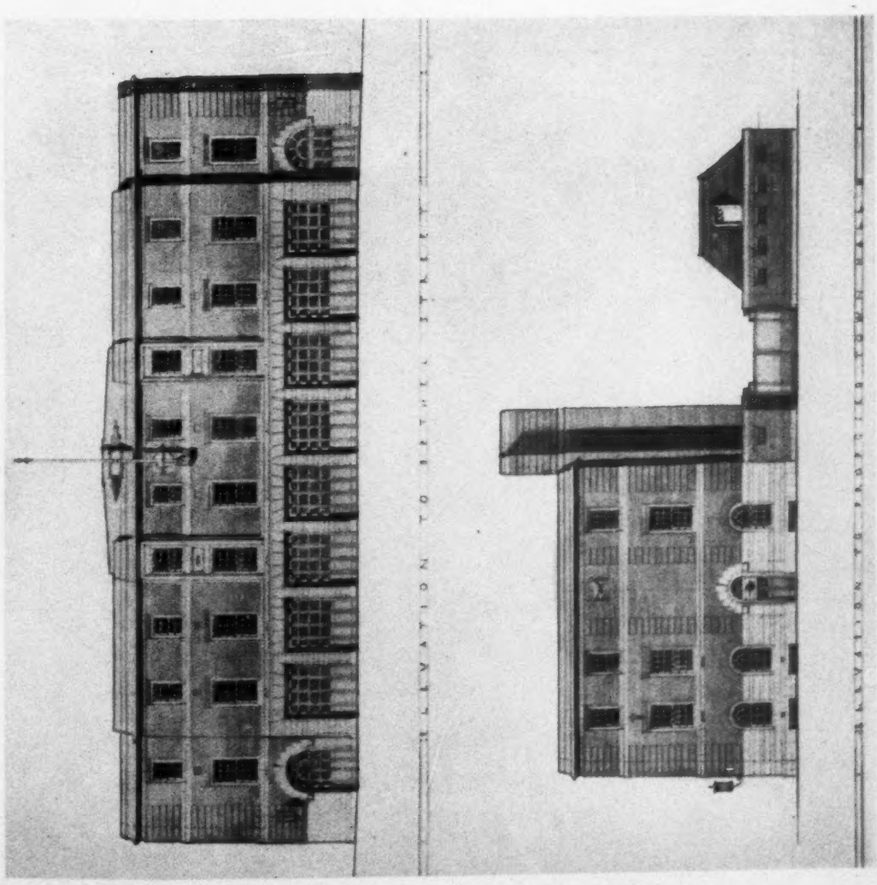




Norwich Fire Station Competition: First Premiated Design.

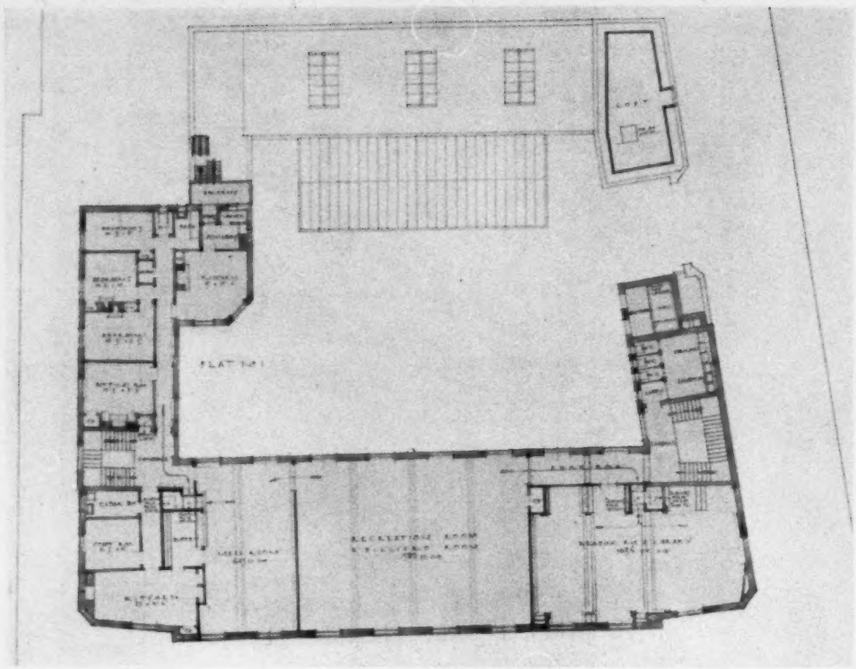
MR. STANLEY G. LIVOCK, F.R.I.B.A., Architect.



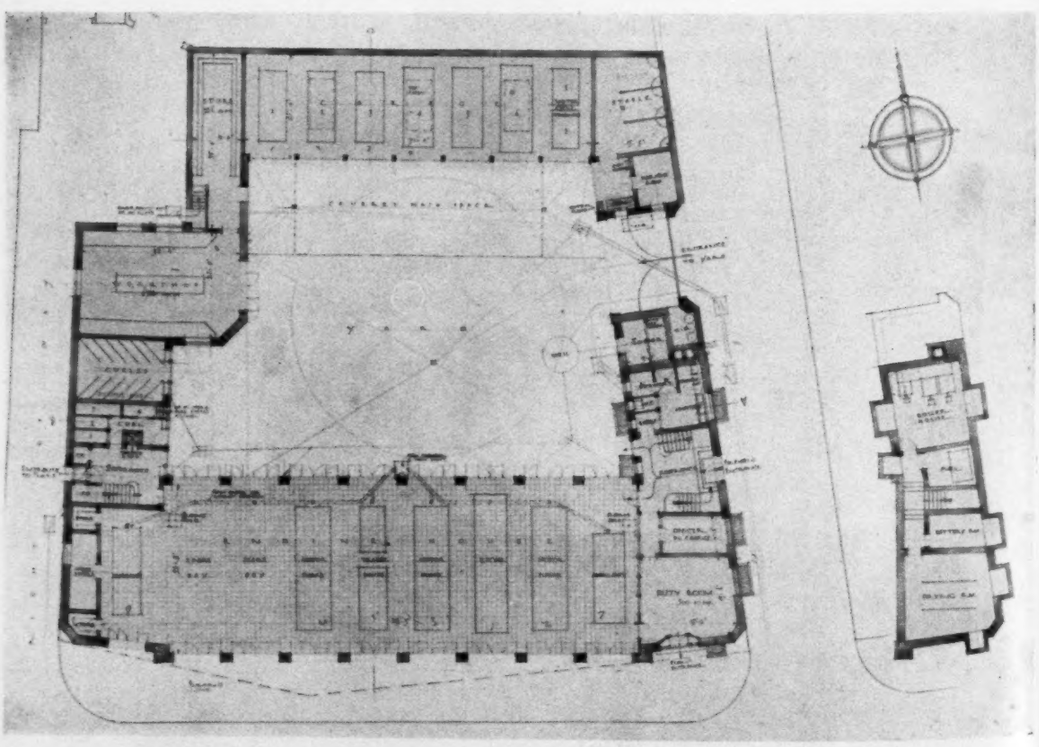


Norwich Fire Station Competition: Second Premiated Design.

By Mr. Stanley J. Wearing, F.R.I.B.A.



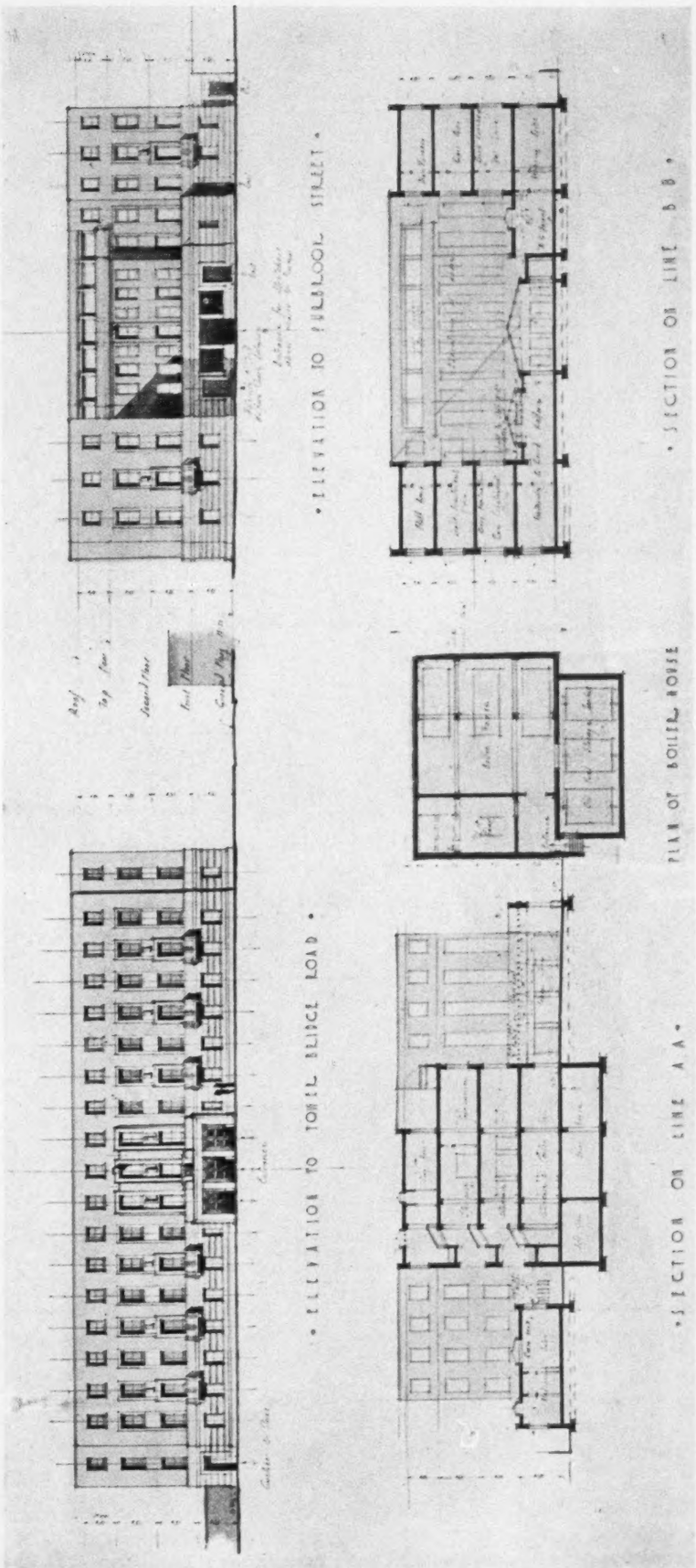
First-floor Plan.



Ground-floor Plan.

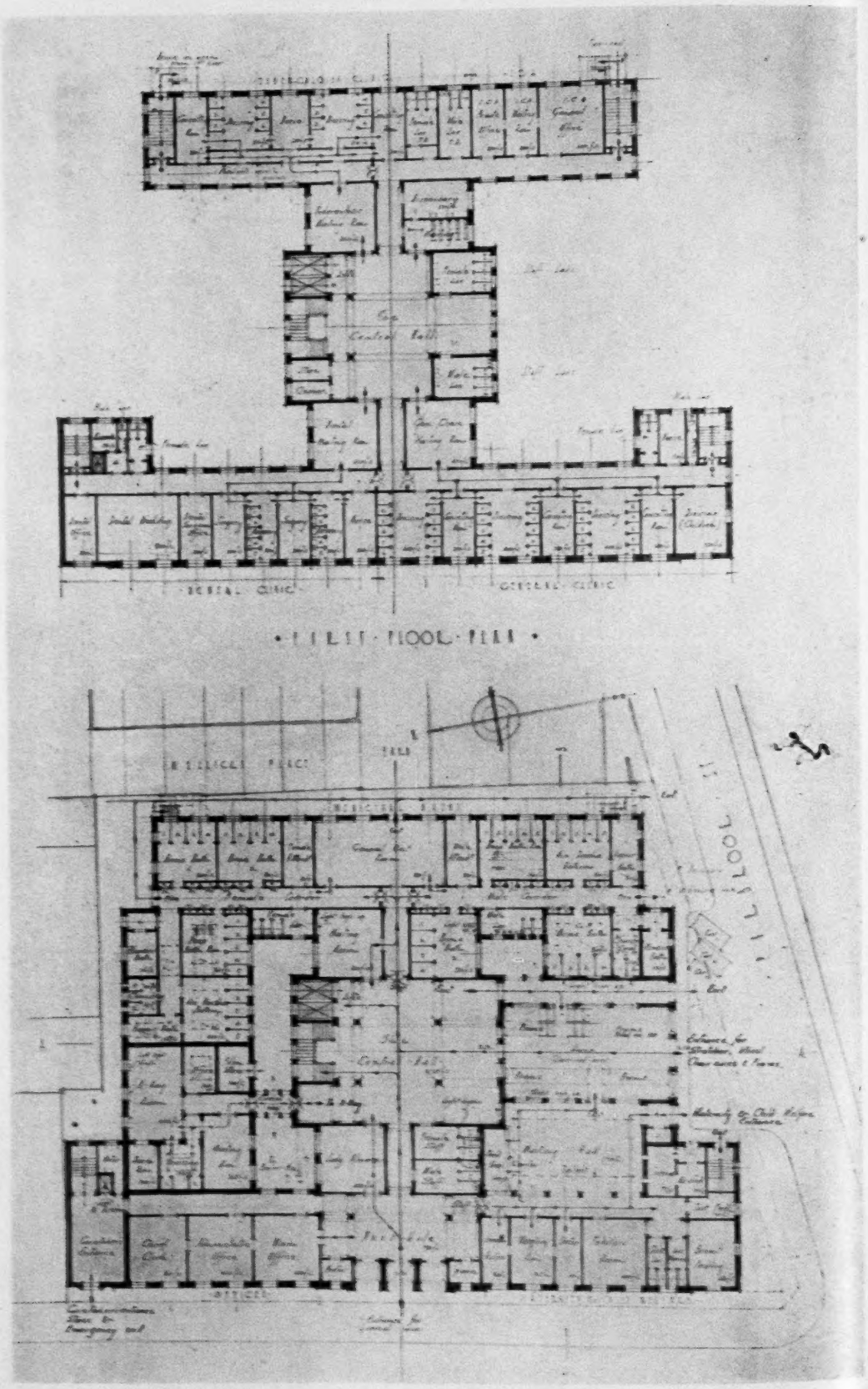
Norwich Fire Station Competition: Second Premiated Design.

By Mr. Stanley J. Wearing, F.R.I.B.A.



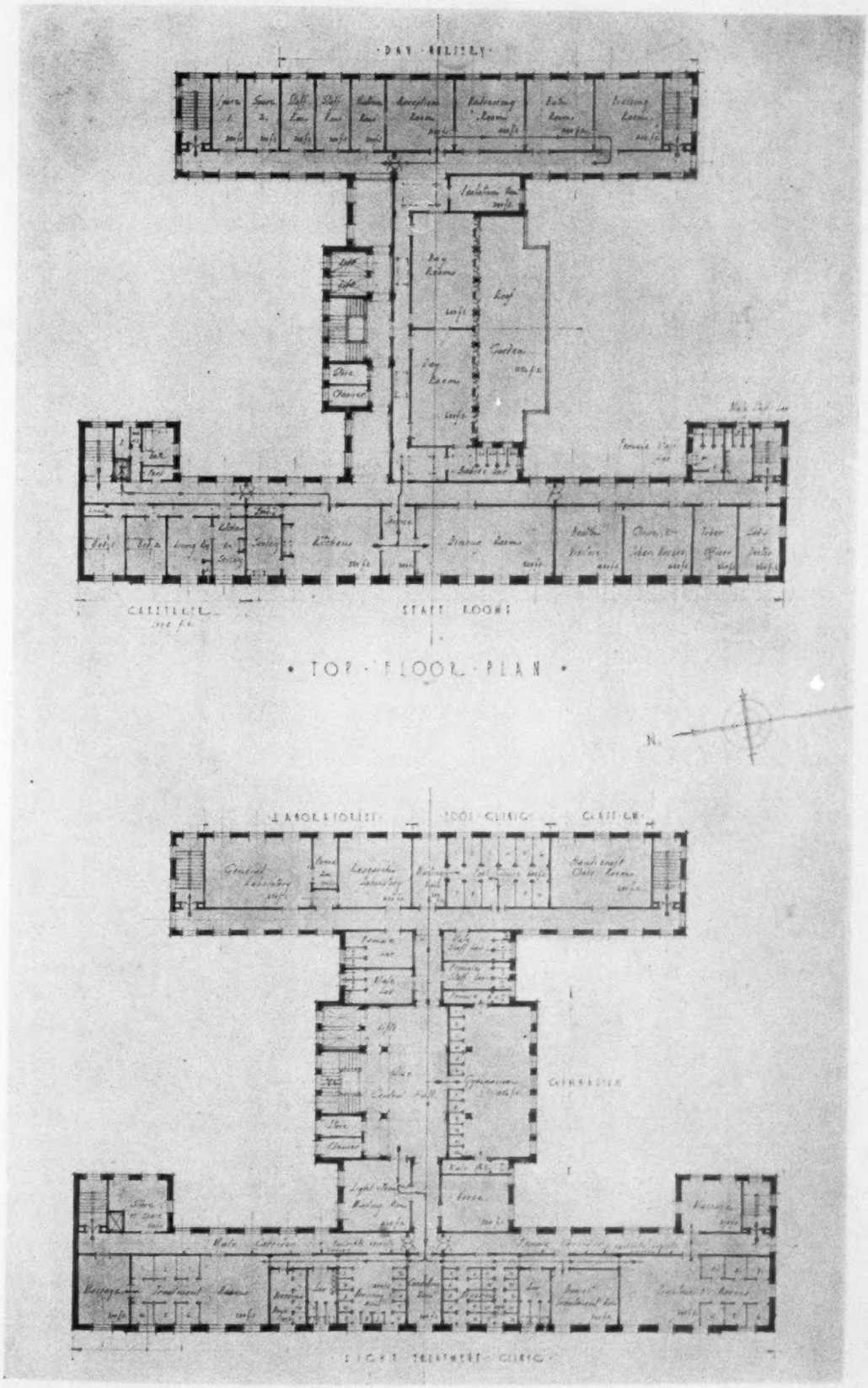
Competition for Proposed Medical Clinic, Bermondsey: First Premiated Design.

Mr. Ernest Edwin Davis, A.R.I.B.A., Architect.



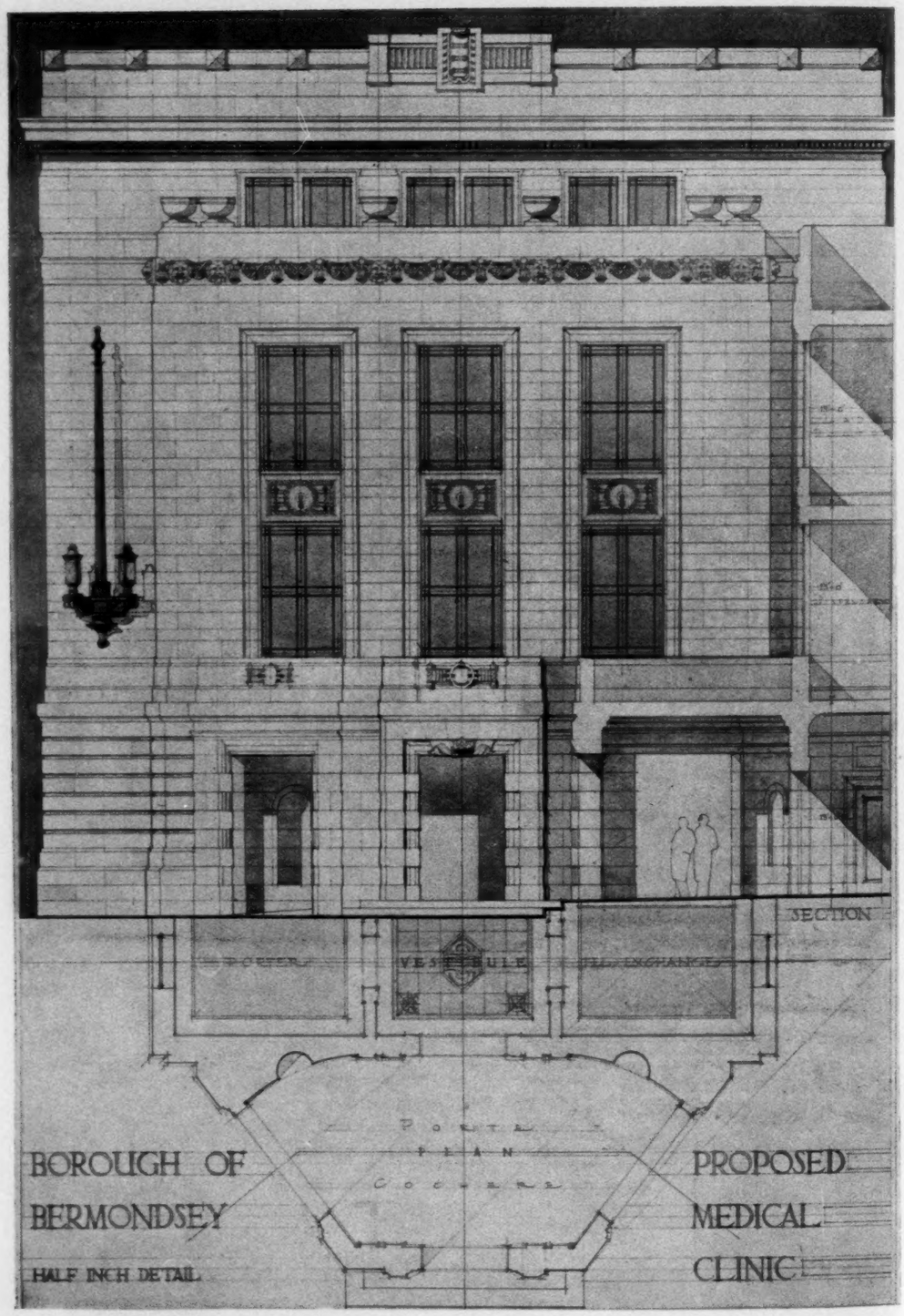
Competition for Proposed Medical Clinic, Bermondsey: First Premiated Design.

Mr. Ernest Edwin Davis, A.R.I.B.A., Architect.



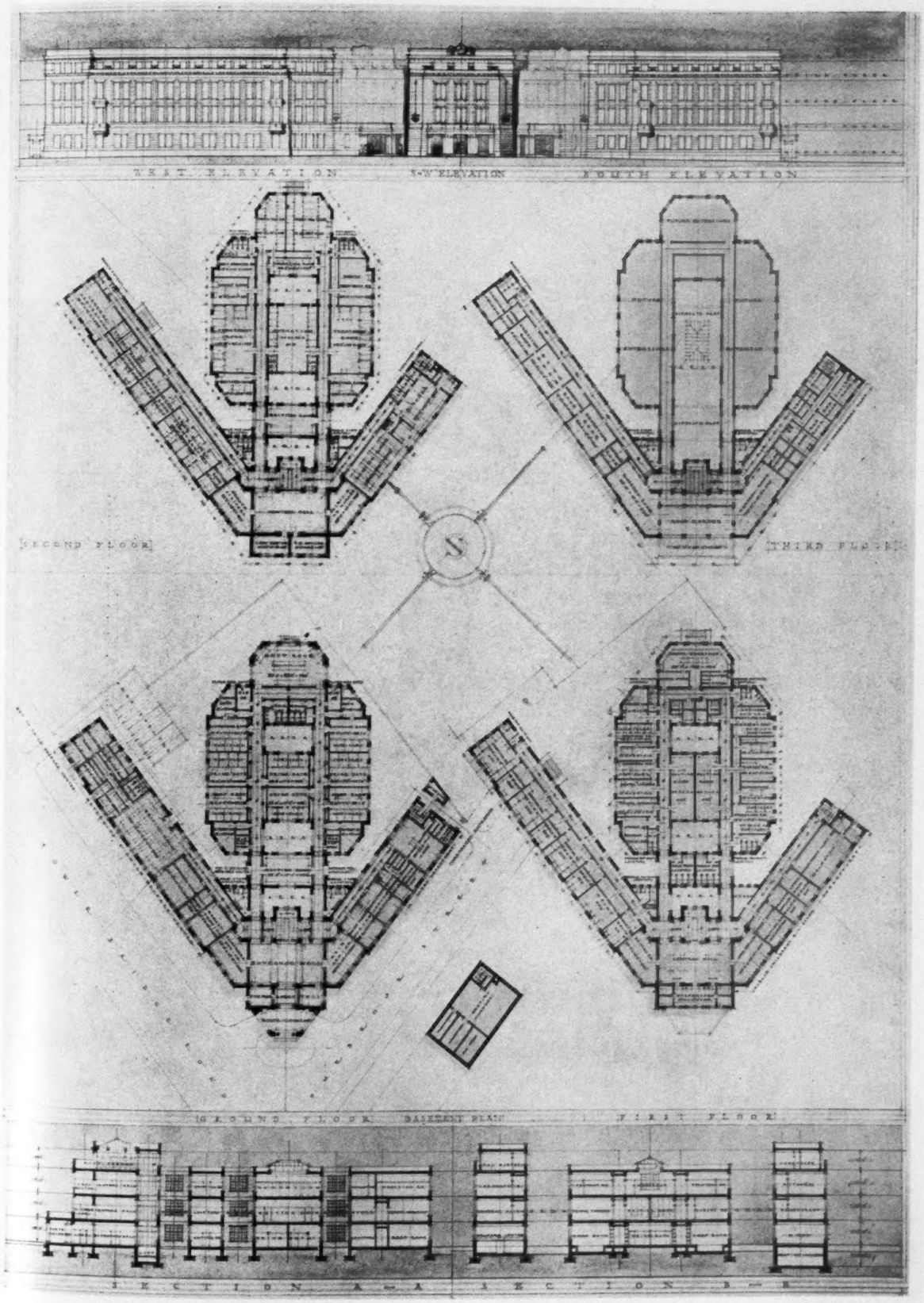
Competition for Proposed Medical Clinic, Bermondsey; First Premiated Design.

Mr. Ernest Edwin Davis, A.R.I.B.A., Architect.



Competition for Proposed Medical Clinic, Bermondsey: Second Premiated Design.

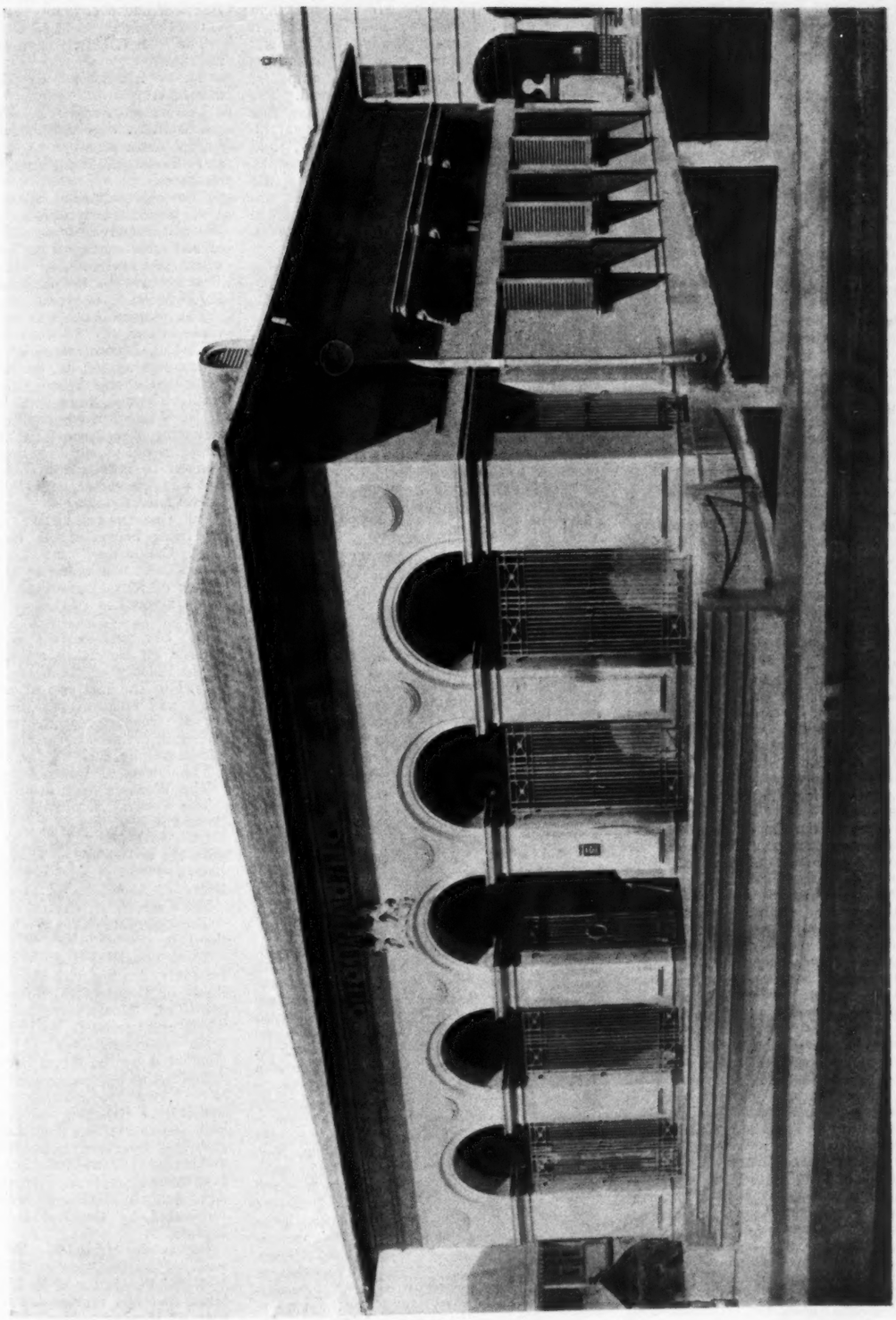
By Messrs. Nicol and Nicol, FF.R.I.B.A.



Competition for Proposed Medical Clinic, Bermondsey: Second Premiated Design.

By Messrs. Nicol and Nicol, FF.R.I.B.A.

Mr. Herbert Langman, F.R.I.B.A., Architect.



Barclays Bank, Antigua, Leeward Islands.
MR. H. GUY HOLT, F.R.I.B.A., Architect.

THE REGISTRATION BILL IN COMMITTEE

A quorum was obtained when the Standing Committee met on Tuesday, March 31.

Discussion was continued on Lieut.-Colonel Moore's Schedule, dealing with the constitution of the proposed Registration Council.

Mr. Kelley (Lab.) moved an amendment to provide that, in addition to the membership of the R.I.B.A. proposed, the President and the Vice-President of the R.I.B.A. should also be members of the Council.

Lieut.-Colonel Moore, however, opposed the amendment because, as he pointed out, it was the first of a series of amendments which would eventually mean the addition of the Presidents and Vice-Presidents of other societies composing the Council. It would ignore the whole question of proportional representation and would give to the smaller societies two additional members, and a representation entirely disproportionate to their strength.

The amendment was negatived by 17 votes to six.

Paragraph (1) of the Schedule states that there shall be on the Council: "One representative for each five hundred or portion of additional five hundred, Fellow, Associate, or Licentiate architect members of the Royal Institute of British Architects, to be elected on the passing of this Act, and thereafter annually in the same proportion by the Council of the said Institute."

Mr. Winterton (Lab.) moved to leave out the word "architect," which, he said, was unnecessary, and would prevent some estimable members of the R.I.B.A. being on the Council. Not all the members of the R.I.B.A. were architects.

Lieut.-Colonel Moore opposed the amendment. He said that the Bill was a measure for the registration of architects, and all those societies who were concerned in the Bill were entitled to representation on an architectural basis. If the word architect was omitted, what would happen? Take the Incorporated Association of Architects and Surveyors, who were at the back of most of the amendments to the Bill. They might have 1,100 surveyor members of that Association. They would be entitled, under the amendment, to three representatives—one for each 500 and one for the 100 over. Take the Chartered Surveyors' Institution, which was also in this Bill. They had 7,000 qualified surveyor members, and they would be only entitled to the one given in the Bill. The position would become perfectly absurd. They would have one moderately small association with three or more members, and they would also have one of the biggest associations of its kind with only one member.

The amendment was negatived.

Lt.-Col. Moore accepted an amendment, which was agreed to, to confine representation to persons resident in the United Kingdom.

Mr. Winterton moved the addition of the following new paragraph:—"One representative for each five hundred and portion of additional five hundred persons on the Register not being members of either the said Institute or the said Association, but being members (parallel in status to the degrees of membership enumerated in the preceding sub-section of this section) of an incorporated architectural society of national scope recognised by the Council as an electoral body for the purposes of this Schedule of the Act, such representatives to be elected thereafter annually in the same proportion by the governing body of the said Society." He said that there was a fairly big margin of architects who were not satisfied with either the R.I.B.A. or the Incorporated Association of Architects and Surveyors, and who might in future be disposed to form an association of their own. The amendment was simply a provisional clause to provide that if any considerable body of architects at any time desired to form another association they should be permitted to elect exactly the same number of representatives on the registration authority as if they were already one of the existing associations to be represented on the Council.

Lt.-Col. Moore said he could not accept the amendment. It was one of the most confusing amendments he had ever seen, and he challenged anyone to find out what it meant. What did "parallel in status" mean? Who was to decide it? Who was to decide what was "national scope"? The amendment was perfectly absurd. The schedule which he had proposed gave fair proportional representation to every architectural association in the country, and brought on to the Council the right people.

Col. Newton-Moore (Conservative) said that the Council was already far too unwieldy and they ought not to make it worse by accepting any additional representatives.

The amendment was negatived.

Mr. Winterton moved to omit the following four paragraphs of the Schedule:—

(iii) One representative for each five hundred, or portion of five hundred, architect members of the Faculty of Architects and Surveyors to be elected on the passing of this Act, and thereafter annually in the same proportion by the Council of the said Faculty;

(iv) One representative for each five hundred, or portion of five hundred, architect members of the Architectural Association (London) to be elected on the passing of this Act, and thereafter annually in the same proportion by the Council of the said Association;

(v) One representative for each five hundred, or portion of five hundred, architect members of the Association of Architects, Surveyors, and Technical Assistants, to be elected on the passing of this Act, and thereafter annually in the same proportion by the Council of the said Association;

(vi) One representative for each five hundred, or portion of five hundred, architect members of the provincial associations of any of the bodies hereinbefore referred to, taken together, to be elected on the passing of this Act, and thereafter annually in the same proportion at a conference of the said associations.

Taking first paragraph (iii), he said that the Standing Committee was entitled to know something about the Faculty of Architects and Surveyors. He had been unable to find any evidence as to the numbers of this body or to discover any list of its members. It was not a *bona-fide* architectural body, and should be deleted. Then as to paragraph (iv), the Architectural Association (London). This was an attempt once more to get in what was really an affiliated or an associated body to the R.I.B.A. to be given certain representation on the registration authority. The membership of this body was said to be about 1,800, and, of those, 270 were students at school. It was really a combination of a school and a club, and there seemed to be no ground whatever for saying that for every 500 members they should have one representative on the registration authority. As to (v), the Association of Architects, Surveyors and Technical Assistants had been repeatedly referred to as a trade union of the architectural profession. He questioned that very much. It had close association with the R.I.B.A., which was an employers' association. He had evidence of that fact. Then, dealing with (vi), he said that this was not quite an attempt to get duplicate representation, but it was an attempt on the part of the promoting body to get unfair representation and a disproportionate amount of representation. If his amendment were accepted, it would make the passage of the Bill a great deal easier.

Lt.-Col. Moore said this was probably the most amazing and unfair suggestion yet made by the opponents of the Bill. It meant selecting arbitrarily two associations—the R.I.B.A. and the I.A.A.S.—as being representative. It left out altogether four of the greatest architectural bodies in the country—the Faculty of Architects and Surveyors, the Architectural Association (London), the Association of Architects, Surveyors and Technical Assistants, and the great provincial societies who had done far better work for architecture than the I.A.A.S. had ever done. The strength of the various societies mentioned was as follows:—

The R.I.B.A., approximately 6,000 members.

The I.A.A.S., approximately 1,800 members.

The Faculty, approximately 1,200 members.

The A.A., over 2,000 members.

The Association of Architects, Surveyors and Technical Assistants, 1,200 to 1,500 members.

The big provincial societies, 3,000.

Why should they take out of representation those four great associations? They had earned the right to representation equally with, and even more than, the I.A.A.S. There would be no duplication between the R.I.B.A. and the great provincial societies.

The amendment was negatived by 14 votes to five.

Lt.-Col. Moore accepted an amendment, which was agreed to, to increase the representatives of the Home Office on the Registration Council from three to five.

Mr. Winterton moved the insertion of the following section:—"The following bodies shall have the right on application to the Council to nominate at the passing of this Act and thereafter annually fifteen representatives, as follows:—

(v) One representative of each of the governing bodies of the Universities of Oxford, Cambridge, and London, and three others to be nominated by the Standing Committee of Vice-Chancellors and Principals of the Universities of Great Britain and Ireland;

(vi) Six persons (not being architects or persons on the Register) nominated by the Royal Society of Teachers, who shall have regard to the interests of elementary, secondary, and technical schools;

(vii) One representative (not being an architect or person on the Register) to be nominated by each of the following bodies:

The Union of Education Institutions;

The Workers' Educational Association;

The Central Education Committee of the Co-operative Union."

Lt.-Col. Moore said he had every sympathy with the object of the amendment, but these bodies were already provided for on the Board of Architectural Education.

The amendment was negatived.

The Schedule, as amended, was added to the Bill.

The Committee then considered the next Schedule, dealing with the constitution of the Board of Architectural Education.

Lt.-Col. Moore accepted an amendment, which was agreed to, to include on the Board three representatives of teaching bodies nominated by the Royal Society of Teachers.

The following paragraph was also agreed to:—"Four representatives of Technical Institutions teaching architecture, two of such representatives from London institutions and two from provincial institutions, to be nominated by the Association of Technical Institutions, and one representative of the Art Schools teaching architecture to be nominated by the National Society of Art Masters."

It was also agreed to allot two representatives to the Institute of Builders and to the National Federation of Building Trade Operatives, and one representative to the Association of Headmistresses. The President and Hon. Secretary of the R.I.B.A. were omitted from the Board, as was also the Chairman of the Allied Societies Conference. It was also decided to include on the Board "twenty-four members, being persons on the Register to be appointed by the Council," so as to give a fair representation to architects themselves.

The Schedule as amended was agreed to. The Committee stage was concluded, and the Bill was ordered to be reported to the House.

LYCIAN ART.—II

By W. R. LETHABY.

MONUMENTS AND MASONRY.

To the south-east of the Gulf of Smyrna lay the country of Lydia, with its famous cities of Sardis and Ephesus. Beyond, on the other side of a range of mountains, was Caria, with the cities of Mylasa and Halicarnassus. Still beyond, where the coast swells out southward, is Lycia, with Phrygia behind it in the interior. The most famous city of Lycia, Xanthus, was on the river of the same name which runs from north to south through nearly the midst of the country, and the site is about six miles from the mouth of the river. Further north are Pinara and Thos, and to the south, on the coast, Patara. To the west are Sidyma and Telmessos, the latter by the sea, and Cadyadna about twelve miles inland. To the east of the River Xanthus are Phellus and Antiphellus, with Myra beyond and Limyra still farther along the coast. Behind Myra are the ruins of a remarkable monument at Trysa which has been discovered by German scholars. Fellows must have passed by very close to the site. The sculptures from this monument are in the Vienna Museum, and it has been described by Benndorf and Niemann in an admirable publication—a model of interesting exposition.

The Lycian monuments have attracted me because we have a quite unrivalled collection of original works and casts in our national Museum, and some documents concerning them have never been published. This material, which represents a phase of art little dealt with in our general histories, can thus be studied at first hand.

Several of the coast towns of the country were visited by the party sent out by the Society of Dilettanti under the leadership of Gell in 1811. Some of the material then collected I was able to publish in *Antiquities of Ionia*, Vol. V. (1915): but many drawings which were never engraved remain in the library of the R.I.B.A. These unpublished drawings are of rock-hewn tombs, and of some buildings of the Roman age at Myra. Among the latter are a remarkable great granary bearing the name of Hadrian, and a mausoleum like a small temple inscribed with the name of Caius Licinius, the cella of which was covered by a semi-circular vault. Another building had a series of tall niches with moulded archivolts stopping at the springing like the drip moulding of a mediæval arch. Two or three of the original views from which the engravings were made are minutely accurate topographical drawings, fine examples of the high skill of the time.

At the British Museum in the Print Room are some drawings made in Lycia by Müller, the skilful water-colour artist, who visited the country while Fellows was there. The portfolio of important drawings, mainly by George Scharf, kept in the Greek Department, has already been mentioned. Scharf's valuable diary is in the MSS. Room of the Museum (Add. 36468); it has not been printed, and very little referred to. Some of the sites were revisited a few years ago by the late F. W. Hasluck, who took some photographs, now at the Hellenic Society. Fig. 1, a tomb at Telmessos, is one of these.

At an early time the country is said to have been settled by a Cretan colony. Lycians were engaged in the Trojan war with Sarpedon as their leader. The background of tradition would have been Hittite, Phœnician and Persian, but this was overlaid—more lately, I think, than is usually supposed—by Greek immigrants and culture. The island of Rhodes was only about forty miles from Telmessos, and the famous centres of late Greek art, Cnidus and Halicarnassus, were within a hundred miles of the same place.

The monuments which have been discovered are for the most part city walls, some late Greek theatres, and a great number of sepulchral monuments, mostly hewn in solid rock. Many of the tombs were adorned with sculptures, and the importance of these monuments is evidence that the Lycians, like the Egyptians, had a special regard, or even worship, for their dead.

The towered walls of the cities appear to follow Hittite traditions; rock carvings and several sculptural types seem also to have been derived from the same source.

At the time with which we are engaged Persian influence was supreme, or, rather, there was an extensive interchange between Asia Minor and Persia. This has often been pointed out of the sculptures, but it is true also of building and burying. Terrace roofs and the architrave and dentil cornices were common to both countries; so were rock-hewn sepulchres. A Persian record shows that marble columns were brought from a place which is supposed to be Aphrodisias.

A large number of the tombs were chambers excavated in the cliff-like rocks; some of these had porches or small porticoes in front, and many were adorned with sculptures, all cut in the solid mass. This hewing the "living rock" of the "everlasting hills" is such a marked characteristic of Lycian tombs that there would have been some deep traditional thought involved in the practice. The tombs so closely resemble those of Darius, Xerxes, and other Persian kings at Persepolis, with their pillared and sculptured façades, that it seems obvious that there must have been near relationship with them. It has been pointed out that some rock-hewn monuments of Western India resemble Lycian tombs. The two tombs at Jerusalem described in the Gospels were hewn in the rock. "The Jewish tombs which still exist around Jerusalem are either sepulchres hewn in the rock with a chamber in front, or independent structures hewn out of the rock. The sepulchres have a kind of façade or merely a framework for the stone which blocked up the entrance." The two best known of these tombs are isolated mausoleum-like monuments cut out of the rock mass. There are also elaborate rock-hewn tombs at Petra, of which a new description is given by Professor J. S. Mackenzie. The oldest of all the tombs of this kind are probably those of Egypt. These countries are not far from one another, and it seems probable, therefore, that some widespread common thought existed regarding the advantages of rock burial. The custom may have been based on the desire not to defile the earth, which in Persia was regarded as one of the sacred elements. How wonderful it would be if we could attain to some such thought of the sacredness of nature! The extensive use of smaller sarcophagus tombs in Asia Minor was doubtless linked with the same general thought. Possibly even the name "sarcophagus" (flesh-eater) is evidence of this.

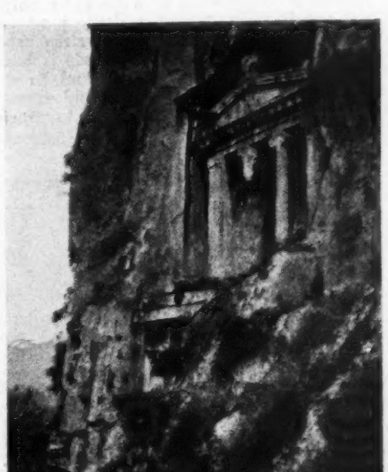


FIG. 1.

Chopping chambered monuments out of solid rock was a remarkable achievement. With their open fronts, isolated columns, far-projecting cornices and sculptured pediments, we may wonder how it was done. The impulse seems to have induced great power of handling and shaping in all forms of masonry.

The exteriors of many of the Lycian tombs were cut into the forms of timber-like structures with cills, posts, transomes, lintels and overhanging eaves or cornices. Their likeness to timber houses led Fellows to describe them as "Elizabethan." The projecting cornices imitated the ends of close-set round poles, the prototype of dentils. A fragment of such a cornice is in the Museum. Doubtless these tombs followed the house-building fashion of the period. A panelled door is frequently carefully represented in the centre of the fronts. The imitation of timber construction sprang from the thought that the tombs were dwelling-places of spirits, to whom, as the sculptures show, offerings and sacrifices were made.

It appears from inscriptions that the larger tombs were made for several occupants—for a family rather than an individual.

One of the finest of the rock-hewn tombs with façades in the form of timber work is at Pinara. The entrance of the tomb itself is withdrawn in a deep porch or lobby, the sides of which, as well as an external pediment, are adorned with sculptures. The following description is taken from Scharf's Diary, written directly after examining the tomb:—

Pinara.

"Higher up the hill we saw tremendous walls composed of cyclopean stone and heavy buttresses of large squared blocks. One large tomb in the rock was very remarkable; its general form was like an Elizabethan window having an inner framework leaving like a porch between [see *Lycia* opposite p. 141]. In the pediment of the outside were figures, one of which was a draped female and child and another in a pleading attitude. Beneath these on a frieze were figures surrounding a man on horseback apparently rejoicing and dancing. On either side of the door in the porch, on the panels, are representations of a walled town with gates and tombs, probably of the city we are now exploring [casts of these are shown in the Museum]. The walls are embattled and the tombs precisely of the forms which surround us. In the gate stood two figures and three on a hill above."

One or more of the hewn tombs at Myra were at a corner of the rocks and had two wrought faces. One tomb had two separate chambers entered from the same porch.

The Lycians not only hewed chambers with porticoes into the rock, but frequently they isolated a whole monument from the solid mass. Fellows describes such an isolated tomb at Pinara where the cutting in the hard mass was 26 ft. deep.

Near Cadyadna he saw a fine sculptured monument "cut from the rock," of which some illustrations are given in his *Lycia*; the figures of the sculpture were nearly full size. Scharf describes it in his diary thus:

"*Cadyadna*, April 8, 1840.—About half an hour up the mountains we came to the remains of a sarcophagus [large isolated tomb]; it had evidently suffered from an earthquake as the whole mass of rock of which it was composed was thrown on one side. The form was square, bearing bas-reliefs on either side, and in the front a window like those of Telmessos. The subject on one side was a reclining figure holding in his left hand a patera and in his [right] hand apparently a bunch of grapes. At the end of the couch stood three figures, one with outstretched hands holds a bunch of something [grapes?]; by the side lies a dog or panther. The other represented a warrior on horseback opposing a kneeling figure about hurling his spear. Beneath the horse lies a wounded

figure with a large round shield. The other figures wear large crested Greek helmets and shirts with belts. . . . The whole is of the purest age of art and I thought them at the time the equal of the Elgin metopes."

Another tomb cut out of the rock had still more elaborate sculptures, casts of which were later obtained.

Drawings of these very remarkable monuments are in the Lycian portfolio at the Museum. The second of the two isolated tombs was nearly square and contained a chamber; the exterior was of timber fashion with a big cornice and diagonal beam-end, and at the corners above this was a smaller stage.

Another drawing in the same collection

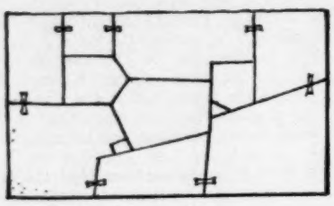


Fig. 3.

represents a large isolated tomb of this type at Xanthus. It was of cubical shape hollowed out within like a big cistern and the exterior was cut into the forms of timber-work; below were three high steps.

At Myra were several isolated rock-cut tombs; two important examples are engraved in *Ionian Antiquities*, Vol. V. One had a banquet scene sculptured in the pediment. The second had a porch which, together with the chamber, was all cut out of the solid. This tomb had its stone sliding door complete or full evidence for it. Of a tomb at Telmessus it was noted that "the entrance has been effected by sliding sideways a panel." Some of the chambers had burial benches within on three sides like the arrangement of a triclinium, and this agrees perfectly with the thought of the sepulchral banquets so frequently represented in the sculptures. In one case illustrated in *Antiquities of Ionia* the tomb bench is fully carved into the semblance of a banquet couch.

Constructed tombs usually retained rock-like characteristics. Fellows describes some in which the graves were sunk into the more level rock, and only a weighty covering or lid was set above them. The Ark-tombs, small tall monuments with curved tops, of which we have two examples in the Museum, were usually reared in a series of blocks hollowed out within and set over one another.

Other important monuments were of pillar or turret form. The Lion and Harpy tombs in the Museum are of this type. In these a small tomb chamber was set on a tall base, usually a monolith. These sepulchral chambers were evidently dwelling-places of the dead who were lifted high in a way that must have had some religious significance. The pillar of the Harpy Tomb was thought by Fellows to weigh about a hundred tons, and the wide-spreading capping stone was about 14 ft. square.

Other tombs were smaller, approximating to the size of more ordinary sarcophagi. Even these, however, were weighty and block-like. Some had saddle-back tops like the Ark-tombs. In others the heavy lids or covering blocks projected far, a characteristic taken over from the common cornice like the eaves of far-jutting pole ends.

Very large stones were used for walling; those of the bases of the Nereid Monument were estimated by Fellows to weigh six to ten tons. A favourite form of construction was with polygonal blocks accurately fitted together. Several specimens of such walling at Xanthus are recorded in the drawings at the British Museum. Fig. 2 is from two of these.

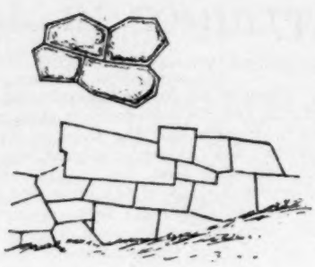


Fig. 2.

Masonry with level courses had the blocks of different lengths and sometimes the beading joints were slanted at various angles. Fig. 3 is the plan of a tomb basis at Xanthus from a drawing at the Museum. From this habit of fitting wedge-shaped stones together it has seemed probable to me that the arch of wrought stones may have been developed. Arches are mentioned in the accounts of Lycia, and one is indicated in the illustration of the relief sculptures at Pinara. This does not appear on the cast in the Museum, and was probably only added in paint. In *The Antiquities of Ionia*, Vol. V, I was able to identify two old engravings of arches in a wall of "Cyclopean Masonry" as being at Cnidus in Asia Minor (Figs. 4 and 5, cf. Texier). The wall surrounded the city and was so thick that the arches

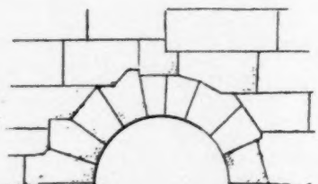


Fig. 4.

were tunnel-like and the face-stones of one of them had fallen away. This city wall with its arches was hardly later than the fourth century. The patchwork jointing and accurate fitting of these large stones is remarkable and I would suggest that it is highly probable that arches of carefully fitted wedge-shaped stones came into general use in association with the polygonal manner of building walls. Further, it is agreed that the Etruscans brought many of their art traditions from Lydia, and as polygonal masonry and stone arches were in common use by them, the tradition was doubtless derived from Asia Minor.

Professor Robertson, in a note on polygonal construction, quotes a simile used by Aristotle: "Just like the leaden strip used in Lesbian construction, for the strip is bent to fit the shape of the stone." And he remarks: "From this passage it would appear that the exact shape of each stone to which

Fig. 6.

another had to be fitted was recorded by pressing a strip of lead against its edge."

The amazing stone-hewing impulse of the Ionian builders must be an expression of some mystery which we hardly understand. We have to get back, if only we can, into our "architecture" some sense of the sacredness of stones and the wonder of fitting them together. I should like to go to Asia Minor for a year to study the art of building with big stones. Wonderful are the ways of workmanship.

The monuments seem to have been highly finished, not rough hewn. Fellows speaks of the polished surface of the tomb of Payava. Further, the rock monuments were painted like the buildings. The casts of sculptures from Myra and Ilos in the Museum have records of the colour found on the originals. Fellows says: Many of the inscriptions retain their varied colouring, and over the doors remnants of painted flowers and wreaths." On one of the drawings from the rock tombs of Myra at the Institute of Architects is a detail of the colouring on the cornice over

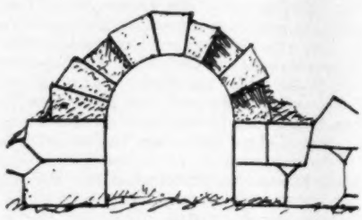


Fig. 5.

a door (Fig. 6). Scharf noted in one of his diaries that the flesh parts of the tomb sculptures at Myra was of "the same peculiar colour" as is seen on Egyptian works—doubtless in dun red.

ENGLISH ROMANESQUE ARCHITECTURE*

This volume sets out to present, in readable form, a consecutive account of English Romanesque ecclesiastical architecture and decoration from the earliest times to the Norman Conquest. The attempt to build up a history of a dark period such as this leaves the author faced with gaps and uncertainties. An immense amount of valuable evidence has been irretrievably lost, and where such gaps occur the author has given us frankly labelled conjectures for the reader to accept or not as he pleases. There is much to be said for the author's contention that whereas Gothic work deserves its pre-eminence as an expression of sophisticated beauty—a complete art form—yet the earlier Romanesque has its own peculiar human interest. Its very frailties and imperfections represent the strivings appropriate to a progressive art.

The traces of Christianity in Roman Britain are confined to the well-known church at Silchester, and to a few portable objects and symbols occurring in pavements. This strangely contrasts with the important and widespread traces of the cult of Mithras and other Eastern religions which, in the author's view, may indicate that Christianity in Roman Britain was largely confined to the poorer classes. The history of English Romanesque building begins in earnest in the seventh century and corresponds with the decline of sixth-century art in Italy. The churches of this period are here considered in detail, the Kentish and Northumbrian types being treated separately. The gradual development in building, sculpture and decoration is then carried to its conclusion in such finished examples as the churches at Earl's Barton, Barnack, and Langford.

The writing is clear and concise and the author has taken care to annotate fully by means of footnotes giving references and comparisons. The plates of photographs and the figures in the text are excellent illustrations to a valuable work.

* "English Romanesque Architecture." By A. W. Clapham, F.S.O. Oxford: Humphrey Milford, at the Clarendon Press. Price 30s. net.

THE ARCHITECTURE OF THE THEATRE IN AMERICA.—XIII

By E. WAMSLEY LEWIS, A.R.I.B.A.

MECHANICAL EQUIPMENT OF THE STAGE.

At last the theatre manager has discovered the value of the mechanical stage devices, which have usually been invented in Germany, but are developed into commercial propositions in America. Modern lighting and roller stages allow more flexible arrangements, the latter permitting a series of scenes quickly changeable and without any creaks. Moreover, with automatic devices, fewer stage hands are required, which makes them greatly favoured, especially by the moving picture theatre managers. In the case of small theatres, it is a matter of expense which deters their employment, but in larger houses new equipment is continually being put in to bring them up-to-date, and theatres vie with one another to produce more and more magnificent shows.

The stage equipment of the Ziegfeld Theatre is the most modern in America. It is designed to accommodate any production, however sumptuous it might be. There is a permanent plaster cyclorama, 59 feet high, which allows any sky effects. The floor is so arranged that stage traps can be fixed at a moment's notice. The orchestra floor is constructed of a special wood, selected for its resonance. The switchboard is built on the principle of a pipe organ, where the operator of lights can play his symphonies of light and colour with all the finesse of an organist.

The Roxy, in New York, is equipped with a sky dome, which is of particular value, since the stage is irregular in shape and the conical sky dome gives a greater effective depth than would be obtainable with a straight back drop. This sky dome has a very finely equipped bank of lights in traps below the floor. There is also a large stage lift 60 ft. long, which is much used for presentation of the spectacular turns between the cinematograph pictures. The orchestra of 110 members rises and falls in a lift, which can bring them up to stage level, or take them completely out of sight, and each of the three organ consoles rises or falls on its separate and independent platform.

Stage Lifts.

The most spectacular feature at the Capitol, the stage lifts, are more intricate than those installed in any other picture theatre. Lift No. 1, which is downstage, near the footlights, is in three sections, allowing it to be elevated as a single platform to a height of 8 ft. 6 in. above stage level, or each of its three sections lifted individually. Thus it may be used to gain a step effect, or an elevated platform across the stage from wing to wing. The No. 2 lift, which is nearer the back wall, is a double decker, with 8 ft. 6 in. clear headroom between the two levels. Each of the two platforms is tracked to accommodate the electric cars, permitting an almost unlimited number of formations by means of various combinations employing two or more of these devices. The bridge is mounted on rollers and set on steel tracks running up and down stage, which are wide enough apart to permit the bridge being moved forwards or backwards over the electric cars.

Below the stage there is a parking space for the cars, so that a scene may be set below stage on what is known as the automat, and the car then rolled on to the lower level of No. 2 lift, and then elevated to the stage level. One of the cars is in two sections, so that it may be rolled forwards or backwards, and at certain points on the stage split into two equal sections, which may be moved in opposite directions up or down stage or towards the wings.

All these devices—stage lifts, orchestra pit and automats—are electrically operated from a switch in the wings. The operation is very simple. There are separate buttons for the various elevations required, and the speed at which they shall move can be regulated. The tracks for the automats do not spoil the floor for use as a dancing space. They are designed with a very small groove cut in the centre of flat steel strips, the flanges of which are set perfectly flush with the floor surface.

The Revolving Stage.

Several theatres—among the large ones the New Century and the Hippodrome, and the small theatres, the Little, all in New York—have been equipped with a revolving stage, an invention of the German, Herr Lautenschlager. Its purpose is to move, without long intervals, built-up scenery, and stage props heavier than can be handled by one or two men. In the case of a small stage, such as the Little Theatre, which has a turntable only 35 ft. in diameter, it is an impractical adjunct, for it is inadequate for many settings, which themselves each only take up a portion of the revolving surface. The wagon stage takes up more ground space, and is extremely useful. Such a stage is found in Chicago at the Goodman Memorial Theatre, where the proscenium is 37 ft. wide and 20 ft. high, and the width of the stage is 165 ft., giving room for three 32-ft. wagons working from side to side.

The Sky Dome.

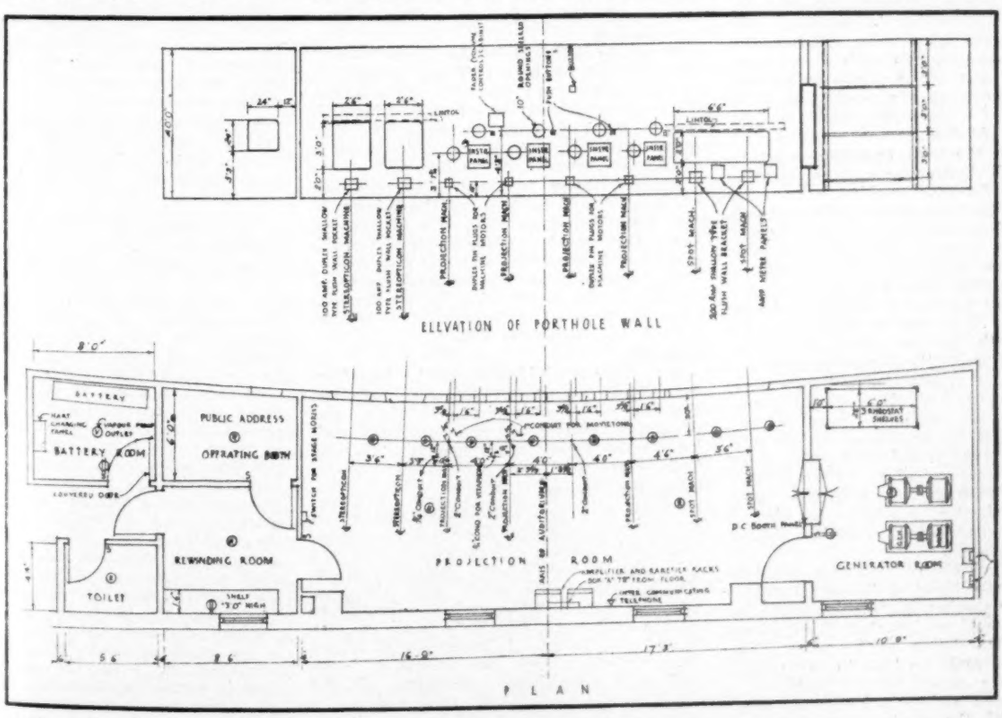
The sky dome is installed in all important new theatres, and is constantly being installed in old ones. It saves much money that would otherwise have to be spent in painted canvas back cloths, drops and borders, which would never be so effective. Scenery may be reduced to the minimum, built-up stage properties become more effectual, and far more beautiful and interesting settings result. Again, the plaster sky dome has an additional advantage—a considerably important one in a large theatre—in that it acts as a sounding board reflecting from the stage towards the auditorium. It is astounding that with its innumerable advantages, it has not yet become a considered item of equipment with the English stage director.

Drop Curtain.

Among other refinements of stage equipment first introduced for picture houses, is the curtain that will draw, tableau and lift—operated by a single control.

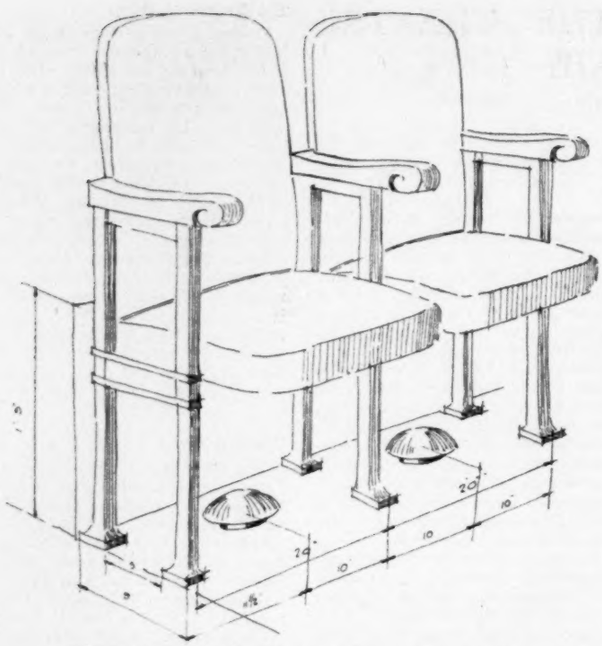
Counterweight System.

Scenery is now always manipulated by counterweights on steel ropes, which are handled at the stage floor level, so dispensing with the necessity of fly galleries. The asbestos curtain must have a rigging of its



Projection Booth Lay-out, Fox Theatre, Newark, N.J.

Mr. Thomas W. Lamb, Architect.



Mushroom Ventilation Extracts under Seats.

own, counter-balanced, so that the curtain falls by gravity under its own weight. The act drop curtain is also on its own system, and in the latest theatres is operated electrically by the pushing of a button.

The Cinematograph Machine Enclosure.

Both in America and England the projection room is required to be built of fireproof construction, and to be ventilated to the open air. In London, however, the architect has to provide a window or skylight in addition, and this often means that the booth has to be placed high up under the roof, the consequence of which is that the angle of projection becomes steep, and the picture is distorted. If there is sufficient ventilation to the booth, a window should not be necessary; it is not required by the operator for any purpose that cannot be served equally well by electric light. In America, the ventilator is required to have a minimum cross-sectional area of 50 square inches and shall be fireproof, so the booth may quite easily be placed in the balcony and a straight projection be obtained.

The door to the projection room must be fitted with self-closing hinges. The operating windows, one for each machine and one for the operator thereof, must not be larger than necessary, and fireproof shutters must be provided to each window. The shutters must be suspended so that they will automatically close the openings upon the operation of a fusible link or mechanical releasing device.

In England films may not be kept in the operating booth but are stored in the rewinding room, and adjoining apartment.

In America, a separate rewinding room is not insisted upon, but where several projection machines are used, it is usual to provide one, which is constructed of the same materials as the booth and fitted with a metal table or shelf for rewinding. This room may be anything upwards from 2 ft. 6 in. wide. In a small theatre, rewinding of films is usually done on a metal shelf at the back of the projection room.

The New York Code directs that when the booth is in use there shall be a constant current of air passing through the ventilation flue at the rate of not less than 30 cu. ft. per minute. Some States require extra 12-in. vent flues to each machine to carry away gases or smoke caused by the machine.

The American architects keep very much up-to-date with the requirements of the projection room, which are continually changing as further improvements are made, and space is required for new equipment. The New York law permits booths as small as 48 sq. ft. in area for one machine, with an additional 24 sq. ft. for each additional machine, but this is the minimum, and architects generally provide more space.

Provision is now made for at least two machines in the smallest theatre, and the booth is at least 7 ft. wide and 8 ft. high. The usual number of projections is three, the centre one being placed on the main axis of the theatre to be in line with the centre of the picture. Two spot lamps are placed on one side and a dissolving stereopticon and effect machine on the other. The whole of this equipment requires a booth at least 28 ft. 6 in. long. The machines are placed at a minimum of 4 ft. apart, centre to centre, and an extra 6 in. is allowed between each for certain types of movietone attachments.

No longer is the projection booth "skied" into the back of the dome; most often it is at the back of the balcony. When the theatre is sufficiently large, so that the balcony is far back from the stage, to obtain a more direct throw, the projection room is often placed in front of the balcony.

A short throw produces bad projection, which results if the front of the balcony is too near the stage. Where a mezzanine tier exists, an ideal place is found for the projection booth in the centre at the back.

The screen is usually suspended several feet behind the curtain line. In the theatres belonging to the Fox Corporation it is 6 ft. behind the proscenium line.

Cleaning.

Provisions are laid down in the American regulations for the proper and frequent cleaning of theatre floors, seating, and draperies. Proper vacuum-cleaning installations are found in all new theatres and halls where fixed seats are placed.

Telephone Systems.

There is always a telephone connection between the manager's office and the engine-room and the stage. There should also be a telephone in the cinema projection room. To synchronise the music with the film, speed indicators in the projection booth and on the orchestra conductor's stand are connected electrically. A buzzer signal system is installed between the projection booth and stage switchboard, orchestra, pit and organ, and dressing-rooms and the stage.

Cooling, Heating and Ventilating of the Theatre.

The Americans heat their buildings to a higher temperature than is usual in England. In our theatres we find a temperature of 50 degrees Fahrenheit comfortable; in America heat is customarily maintained at about 70 degrees.

The Americans began to consider the scientific heating and ventilation of their buildings long before we in England thought it necessary, and they have kept ahead of us with a higher general standard. In a theatre, the body heat from the audience is inclined to make cooling a more desirable feature than heating, and, if this is to be obtained with any degree of comfort and absence of draughts, only mechanical cooling can be resorted to. In recent years many American theatre proprietors have installed cooling systems, and the habit of installing the necessary plant is growing rapidly. Much propaganda is made of it in the summer months especially, and the Americans, liking to see big sums in dollars, are informed in their theatre programmes of the great cost at which the new refrigerating plant has been installed. The refrigerating plant may cost from 12 dollars to 15 dollars per seat, but it is considered by the owners generally worth the money, as a well-cooled theatre is a very special attraction to the public for a longer portion of the year in America than it would be in England. The air admitted into the auditorium is cooled by passing through a dehumidifier, in which the water has been cooled by the refrigerating plant. The refrigerating machinery is very heavy, and is, therefore, generally placed in the basement. In some cities the law demands that the refrigerating equipment should be installed in a separate building communicating only with the open air.

Boiler House.

The New York Building Code directs that every steam boiler shall be located outside the building. This usually results in the boilers being placed under the street pavement. In Boston, the boiler house must not be under the sidewalk or public thoroughfare, but may be under the theatre. In Chicago there are no special restrictions for the boiler house.

In America it is the custom to place radiators on the back wall of the stage at various levels, and coils of heating pipes around the stage skylight or ventilator. This keeps the stage warm and obviates the passage of strong currents of air passing from the stage through the auditorium causing draughts.

Another source of draught is the doors to the auditorium from corridors and lobbies, which bring cold air in from outside. To prevent this the Americans keep their entrance lobbies well heated.

There are two systems of auditorium ventilation; the upward, when the air is brought in through the floor or lower parts of the wall and exhausted through the ceiling, and the downward, when air is introduced through the ceiling and extracted through the floor. The American theatre architects of to-day choose the latter system. The audience itself produces heat and moisture which it is desirable to remove. To accomplish this, and at the same time maintain an even temperature of 70 degrees, air must be admitted at a temperature below that which is desired. If admitted through the floor, this cooler air will strike the feet of the people in the seats, causing discomfort; if brought in through the ceiling, the air picks up heat as it passes over the patrons and strikes them at the correct temperature. In summer weather, when the cooling system is in operation, if the air was introduced through the floor the chilling of the feet of the audience would be even more acute. Furthermore, with the upward system, dust is carried up from the floor into the air, which is both unpleasant and unhygienic.

The New York Building Code directs that during the time when the audience is present there shall be at least 500 cubic feet of fresh air per hour for each person.

SOCIETIES AND INSTITUTIONS

R.I.B.A.

Soane Medallion and Tite Prize Competitions.

We are informed that in the United Kingdom 60 students took part in the preliminary competition for the Soane Medallion, and 244 students took part in the preliminary competition for the Tite prize. The following students have been selected to take part in the final competitions :—

Soane Medallion.—John D. Carnegie (Edinburgh College of Art), Denis R. Harper (Liverpool University), Donald D. Harrison (Leeds College of Art), T. T. Hewitson (Liverpool University), John Hughes (Liverpool University), George Kenyon (Liverpool University), Norman S. Lunn (Liverpool University), Brian McE. Bell (London University), Robert H. Matthew (Edinburgh College of Art), Francis W. Mudd (Architectural Association), H. R. M. Walker (Architectural Association), Robert G. Parker (Liverpool University), John G. Sheridan (Liverpool University)

Tite Prize.—William Blair (Liverpool University), Clifford W. Brown (Leeds College of Art), John C. Clavering (Durham University, Armstrong College), Anthony Cooper (Architectural Association), Dudley L. Couves (Durham University, Armstrong College), L. H. A. Fermaud (The Polytechnic), Frank Gollins (Birmingham School of Architecture), Kenneth J. Grice (Birmingham School of Architecture), Edwin H. Hickton (Birmingham School of Architecture), Alan H. Hope (Liverpool University), David M. Jones (Liverpool University), F. E. Kerswill (London University), H. John Lake (Liverpool University), Arthur Ledoyen (Birmingham School of Architecture), Howard Norcliffe (Liverpool University), Betty Rowlands (Architectural Association), C. P. Saurin (London University), Cecil J. Searle (Architectural Association), Edwin Shepherd (Leeds College of Art), Reginald A. Smeeton (Birmingham School of Architecture).

THE ARCHITECTURAL ASSOCIATION.

Architecture the Social Art.

The last of the series of popular lectures at the Architectural Association was given last Saturday afternoon by Mr. R. A. Duncan, A.R.I.B.A., his subject being "Architecture the Social Art." The lecturer said architecture was the social art because it was an essential product of any form of civilisation; it was, in fact, one of civilisation's chief forms of expression. Some form of building was essential to human existence; better building was necessary for improvement in existence; but for real living, building must be expressive of spiritual and intellectual qualities. How to live gregariously yet well in every sense, biologically, economically and spiritually was the problem that had been the aim of every experiment in civilisation, and the planning and character of the city had been one of the most important factors in solving the problem.

The lecturer illustrated with lantern slides the difference between the architectures of modern Europe, India and China. He showed also the evolution from Roman through Mediæval and Renaissance to the architecture of our own times. The divergence of expression in these pictures, he said, corresponded with a divergence in ideas. To-day we were certainly at the beginning, if not in the middle, of another great break with tradition. The social art of architecture did not indicate that the changes brought by the industrial revolution were really for the better. He could harrow the feelings of his audience with view after view of slums and disorderly factories, while in the shopping areas and centres of towns the money that was spent on display was wasted in bad taste and incoherence. It was no use pointing to a few good buildings —it was the mass that was representative; and the badness of this was a symptom of serious social disorder which, if not remedied, would destroy us spiritually and materially.

The remedy was that democracy should learn to appoint efficient individuals to the power of control in each and every sphere of life, and in building the first control was a town and country planning one. Such regulation could not form a substitute for the personal education of taste, but would help to keep in bounds the unruly development of our industrial civilisation. We heard a great deal to-day about the preservation of this and that, and certainly we should perpetuate anything really worth keeping, but veneration for past glories was no excuse for making no effort to equal or excel them. We were on the threshold of a new era in the history of mankind, and much of our previous experience could not serve as a guide. We were drifting towards a scientific and industrial civilisation, and as this civilisation became more definite we should begin to see a characteristic architecture evolving, something very different from anything that had preceded it. A conscious effort should be made to produce order, substituting purpose for the confusion of haphazard development. We might start by producing a plan for London; the natural process of building and rebuilding would ultimately allow us to mould it to our needs and desires. We must accept the limitations of our industrial civilisation and make the most of its advantages. Industrial methods of production, far from being inimical to all art, had great potentialities in the hands of skilled and sympathetic designers, but we must not expect to produce the same sort of goods as were produced by other means in the past. Most of our industrial design to date had been a shoddy imitation of hand-made goods, and no progress could be made along such lines. The designer must create, the manufacturer produce, and the people demand the truly characteristic machine-made thing. Then the power-driven machine tool would prove the greatest gift the gods had given to men.

WEST YORKSHIRE SOCIETY OF ARCHITECTS.

Mr. J. Needham took the chair when associate members of this Society engaged in a debate at its Leeds headquarters on March 26, the subject being "That Architecture is of Vital Importance to the Layman."

Mr. J. A. Naylor, opening in the affirmative, said the world could not express itself without architecture, which revealed in lithic history the social conditions, progress, religions, and events which were landmarks in the march of mankind. Architecture had supplied shrines for religion, homes for the living, and monuments for the dead. Ruskin told them that it was an art for all to learn, because all were concerned with it. One of man's primary instincts was to build a shelter and a stronghold, which afterwards developed into a desire to satisfy his emotions. The architect controlled the habits of the layman, and decided where he should breakfast and where he should hang his hat. He controlled the layman from the moment he got out of bed until the hour that he retired to rest. How, then, could architecture be of anything but of vital importance to him?

Mr. G. B. Stickney, taking the negative view, said he thought that any importance which architecture assumed in the mind of the layman was to a large degree subconscious and that it would be more true to say that the layman was of vital consequence to architecture. The duty of formally introducing the layman to architecture rested with the educationalist, but the former of these would be just as happy lacking the acquaintance. It was doubtful whether the mind was much influenced by its environment. Happiness came from within, not from without.

Mr. E. Seel remarked that Indians in wigwams lived more happily and care-free than people in modern houses, the architecture of which was anything but vital to the inmates. He thought it was a very good thing that the layman was not vitally interested in architecture, so that it could be carried on free from lay interference.

Mr. S. Simpson said the occupants of office blocks were exhilarated if these were of good design and generally admired; they felt proud to be occupied in a building of good design. In that sense architecture was certainly vital to the layman.

Mr. D. D. Harrison said he thought the laity were none the worse for going through life without any true appreciation of architecture.

Mr. R. J. Edmondson said he thought the sight of good architecture affected the layman favourably, though he might not always be able to express his feelings.

Mr. Norman Culley, President, said that architecture had the greatest influence on the minds of the public, however humble their station in life; but that modernist buildings would not tend to enhance their interest.

Mr. H. Waddington remarked that the inmates of warehouses and factories, if these were well planned, knew how to escape with the least danger to themselves, and in that sense architecture became of vital importance to them.

Messrs. F. Chippendale, Mr. F. R. Pullan, and R. C. Davis also took part in the debate, and, on the vote being put, a majority verdict for the motion was recorded.

SOUTH-EASTERN SOCIETY OF ARCHITECTS.

Joint Luncheon with Builders.

A joint luncheon of the Guildford Chapter of the South-Eastern Society of Architects and the Southern Counties' Federation of Building Trades Employers was held at the Angel Hotel, Guildford, on Wednesday, March 11. Mr. T. R. Clemence, chairman of the Chapter, presided, with Mr. A. Francis, President of the Federation, in support.

Mr. Goulburn Lovell, secretary of the South-Eastern Society, welcomed the members of the building trades, and said the Society were hoping to set up in the area some form of board which would adjust difficulties that might arise. Whereas the building trades employers, not only in the southern counties but throughout England, were working with the utmost harmony with the architects, it seemed a most extraordinary thing that the Institute of Builders were doing whatever they could to annoy architects represented by the R.I.B.A. The speaker mentioned the opposition offered by the Institute of Builders to the Royal Institute's petition to the Privy Council to modify their by-laws and to the Architects' Registration Bill.

Before reading a paper on building law, Major W. E. Watson, F.R.I.B.A., said he hoped that the new form of contract, which was approved by the Council of the Royal Institute, would go a long way towards making a sweeter attitude between the two main parties concerned in the building contract, including the architect, who represented the employer. It might be said in all fairness that the purpose of revising the 1909 form of contract was to give the builder a better deal, to let him know where he was, and to overcome—what they must frankly admit there had been in the past—lack of knowledge in the architectural profession. The architect of coming days must know more than his grandfather did, he ought to be more of a business man than he had been, and he ought to have a consideration for the builder greater than had obtained in the past. That was the primary underlying purpose of the new form of contract.

The lecturer went on to deal with relations between sub-contractor and employer, and with questions of payment in the case of provisional sums and prime cost items. He answered a number of questions, and was thanked for his address on the proposition of Mr. A. Cannon, secretary to the Southern Counties' Federation of Building Trades Employers.

In replying to the remarks of Mr Lovell, Mr. A. Francis deprecated the introduction of so many sub-contractors, and said builders felt they should be given an oppor-

tunity of carrying out the whole of a job. Mr. Lovell had touched on very delicate points in regard to the register and the new form of contract. Builders wanted architects to be well equipped from a business standpoint. Another point of discussion was the preparation of plans by builders. In Reading they had agreed that all builders would employ architects when a job exceeded a certain figure. If that principle were adopted throughout the South of England there would be a better understanding.

The annual meeting of the Chapter followed, and Mr. Clemence, who presided, presented the annual report, showing an increased membership. Reference was made to the death of Colonel Hardcastle, of Woking, first chairman of the Chapter and President of the South-Eastern Society. Officers were elected as follows: Chairman, Mr. T. R. Clemence, F.R.I.B.A., Guildford; hon. treasurer, Mr. H. R. Poulter, F.R.I.B.A., Camberley; hon. secretary, Mr. N. D. Quick, A.R.I.B.A., Guildford; hon. auditor, Mr. Edward Penfold, F.R.I.B.A.; committee, Messrs. G. Maxwell Aylwin, F.R.I.B.A., Farnham; R. F. Bargeman, A.R.I.B.A., Dorking; A. C. Cowtan, A.R.I.B.A., East Horsley; H. R. Gardner, F.R.I.B.A., Leatherhead; Joseph Hill, F.R.I.B.A., Surbiton; B. L. Newman, L.R.I.B.A., Farncombe; A. J. Stedman, F.R.I.B.A., Farnham; A. H. Brownrigg, F.R.I.B.A., Guildford; L. R. Stedman, L.R.I.B.A., Farnham; J. D. Hossack, A.R.I.B.A., Surbiton.

SOUTH WALES INSTITUTE OF ARCHITECTS.

Annual Dinner.

The annual dinner of this Institute was held at the Park Hotel, Cardiff, on Thursday evening, March 19. The President, Mr. T. Alwyn Lloyd, presided over a large gathering of members, guests and their ladies. The company included the following:—The Lord Mayor and Lady Mayoress of Cardiff (Alderman R. G. Hill Snook, J.P., and Mrs. Gerard Geen), Dr. Raymond Unwin, V.P.R.I.B.A.), the Mayor of Newport (Councillor Thomas Crowther), Mr. Ian MacAlister, M.A. (secretary R.I.B.A.), Mr. G. C. Lawrence, R.W.A., F.R.I.B.A. (chairman, Allied Societies Conference of the R.I.B.A.), Mr. J. Arthur Smith, F.R.I.B.A. (president, Hampshire and Isle of Wight Architectural Association), Mr. W. J. Stenner, F.R.I.B.A. (president, Bristol Society of Architects), Principal Charles Coles, B.Sc., Mr. W. J. Williams, M.A. (Director of Education, Cardiff), Dr. Cyril Fox (Director of the National Museum of Wales), Sir D. Lleufer Thomas, LL.D., J.P., Mr. F. J. Thomas (vice-president, South Wales Federation of Building Trades' Employers), Mr. A. E. Jenkins, F.I.O.B. (chairman, Institute of Builders, South Wales Branch), Mr. Wilfred R. Evans (president, Cardiff Master Builders' Association), Mr. Percy Watkins (regional secretary, South Wales Federation of Building Trades' Employers), Mr. J. B. Dawson (secretary, Swansea Master Builders' Federation), Mr. A. E. Moss (president, Newport Master Builders' Association), Mr. Fred Pitcher (president, Insurance Institute of Cardiff), Mr. Robert J. Webber, J.P., and Messrs. A. Maclean, M. Pennant Jones, Sydney P. Richard, J. Herbert Jones, C. S. Thomas, W. S. Purchon, Ivor Richards, C. J. Bartlett, James Wallace, J. G. Dunton, E. H. Fawckner, A. P. Fawckner, James Turner, Ivor P. Jones, Percy Thomas, George A. Phillips, J. Llewellyn Morgan, H. B. Duce, H. Gibson, J. Gibson, W. F. Gibson, Norman Sully, T. Edgar Smith, Trevor Williams, J. A. Hallam, H. Teather, Arthur Chorley, H. W. Fletcher, Edwin Smith, D. Pugh Jones, O. S. Portsmouth, G. R. Hubert Rogers, Howard Williams, J. Williamson, C. F. Ward, Johnson Blackett.

The toast of the Royal Institute and its Allied Societies was proposed by Mr. W. J. Williams, M.A., Director of Education, Cardiff, who said it was curious that no one seemed conscious of the contribution that architects made towards the establishment of a standard of beauty. Architecture was so obvious that the people did not always realise that architecture made their civic environment. The splendid creations of the architects through the ages had enabled man to realise fully what culture could do for men. With the renaissance of architecture that was being experienced they were likely to see great changes in town-planning and the building of houses. And towards this renaissance the Institute had made material contributions. Architects had made a great contribution towards the idea of Cardiff as the capital of Wales, for they had accomplished a civic centre the equal of which was not in Great Britain or on the Continent.

Dr. Raymond Unwin, responding, after expressing Sir Banister Fletcher's regret at his absence and greetings to the gathering, said the Institute was primarily for education, and only secondly a professional guild of architects. But there were two sides to education, and they did not always give quite enough attention to the education of the public. The Welsh people were particularly educated in music, but how many of the general public were there who could tell the difference between a noisy and a harmonious building? Yet it was just as much want of education that the public should not be able to tell when a building was not decently designed, as it was not to be able to distinguish between noise and music. He would like to see the time come when it would be considered not the thing for any university to turn out graduates who did not know the difference between a good building and a bad one. Cardiff and its area had many great architects. The names of Mr. Ivor Jones and Mr. Percy Thomas were becoming known throughout the kingdom. He trusted that the civic centre they had designed for Swansea would be realised in bricks and stone in their day. And their President (Mr. Alwyn Lloyd) was doing similar work for the small dwelling.

Mr. G. C. Lawrence, of Bristol, also responded and referred to the fine services which the allied societies were doing in the work of the Royal Institute and in their own locality. The Institute was not a trade union in the narrow sense of that term, but a body actuated by the high motives of service to the profession and the community. In his views there was no allied society which stood higher in the esteem of other members of the conference than the South Wales Institute.

Mr. T. Alwyn Lloyd, proposing from the chair the toast of "Our Guests," said the South Wales Institute had celebrated its fortieth anniversary last year. A new era in the scope of its activities commenced twelve years ago, on the formation of the three branches at Cardiff, Swansea and Newport. The Institute had given its whole-hearted support to the training of young architects at the Welsh School of Architecture, and in addition it had taken its part in the wider question of educating the public in the appreciation of architecture and the architect's function. Representations were made from time to time to public bodies, particularly as regards competitions. Their desire was to collaborate helpfully with the authorities and not merely to content themselves with criticism. An equally important sphere of work was that connected with the preservation of the countryside and the exercise of adequate control in the design of buildings. In the suburbs of Cardiff, and of other towns, buildings had been erected quite out of harmony with their surroundings, and of an unsatisfactory character. He appealed to their friends, the builders, to co-operate more closely with the South Wales Institute in endeavouring to obtain a better state of affairs. With advisory committees and architects' panels in operation elsewhere, they had admirable precedents for similarly effective work in South Wales.

The Lord Mayor of Cardiff, and the Mayor of Newport also replied.

Mr. J. Arthur Smith, president of the Hampshire Society of Architects, and Mr. F. J. Thomas, vice-president of the South Wales Federation of Building Trades Employers, also spoke.

On the following morning, before leaving Cardiff, Dr. Unwin visited the Welsh School of Architecture, and gave an address to the students, which was very much appreciated.

LIVERPOOL UNIVERSITY.

Following is the examination list for March, 1931:—

Faculty of Arts: Degree of B.Arch. Fourth Examination.

(i) *Honours Design.*

G. P. Bell.
A. M. Best.
W. Blair.
A. E. Ferriby.
A. G. S. Fidler.
R. J. Gardner-Medwin.
H. E. Gonsal.
N. W. Goodacre.
A. H. Hope.
E. R. Horsburgh.
R. P. S. Hubberd.
H. J. Lake.
F. H. Littler.
N. S. Lunn.
D. F. H. Naude.
M. Rathmell.
R. V. Smith.
Constance S. Stammers.
D. Winston.

(ii) *Honours Construction.*

U. A. Coates.
K. W. Geary.
D. M. Jones.
A. L. Meiring.
M. Read.
R. E. Roberts.

(iii) *Ordinary Degree.*

J. G. Wilkinson.

Diploma in Architecture: Fourth Examination.

(i) *Distinction in Design.*

S. H. Beckett.
A. C. Bennett.
L. Berger.
A. Crighton.
H. T. S. D'Alwis.
T. E. Davies.
L. M. Hernandez.
L. Lazarus.
Jean MacIntosh.
Mary I. Mayo.
J. L. Parkinson.
F. N. Peece.
C. E. Plews.
H. G. Rennie.
Rachel J. Richardson.
V. W. Rogers.
J. G. R. Sheridan.
P. A. Sydney.
H. Wyatt.

(ii) *Distinction in Construction.*

A. Roberts.

(iii) *Ordinary Diploma.*

H. B. K. Smith.

WEST YORKSHIRE SOCIETY OF ARCHITECTS.

The sixth and final lecture of the series given by members of this Society in conjunction with the local education authority, was delivered at the Huddersfield Technical Institute on March 20, by the President, Mr. Norman Culley, his subject being: "The Past, its Lessons; the Present and the Future." The lecturer, by means of over one hundred lantern slides, traced the structural evolution of architecture through successive periods; the limited requirements of the Greeks, and the consequent simplicity of their buildings; the more complex needs of the Romans, leading to a love of magnificence; the unbalanced plans of mediæval structures, and their development of walled cities, with the cathedral or church as an æsthetic and spiritual centre; and the world movement of the Renaissance; and, later, civic planning in the grand manner as developed in France. The various movements responsible for the so-called new architecture were explained, and the lecturer said so rapid had been the progress, many of these buildings were already out of date. A vision of the city street of the future was conjured up by the lecturer, who was accorded a vote of thanks, moved by Mr. A. L. Dyson, and seconded by Mr. J. H. Milner. The chairman, Mr. Barratt, secretary to the education authority, thanked those concerned in organising the course of lectures which, in view of the large attendances, he was sure had been highly instructive to both students and public.

City of Birmingham Handbook.

The present edition of this handbook, up to date in local information and statistics, may well prove of interest and value to persons who seek the manufacturing and commercial possibilities in Birmingham. The city's undertakings and capacity for service are fully explained. The Local Government Act, 1929, calls for an additional section explaining the new duties imposed on the city council by transfer to it of the functions of the old boards of guardians in relieving the poor; other new duties and powers involved by the passing of the Act are dealt with in the sections on education, public assistance, public health, and mental deficiency. The successful changes in Birmingham's character since Roman times, first as a market town and then as a capital of industry, makes fascinating reading. The chapters on the "evolution of civic administration" and "an introduction to civic management" are of the greatest possible value to all engaged upon like undertakings. Copies are obtainable free from the City of Birmingham Information Bureau, the Council House, Birmingham. The book is well and profusely illustrated.

LONDON SOCIETY

LORD CRAWFORD AND BALCARRES, K.T. (President), occupied the chair at the nineteenth annual meeting of the London Society, held in the Clothworkers' Hall, Mincing-lane. Amongst those present were Sir Alfred Rice Oxley, Sir Andrew Taylor, Lt.-Col. Clements, Lt.-Col. Talbot, Lt.-Col. A. C. Bromhead, Professor A. E. Richardson, Alderman A. C. Bossom, Messrs. H. C. Scott, J. Scott Duckers, H. C. Bickmore, F. R. M. Townsend, G. B. Marchant (hon. auditor), Carmichael Thomas, Arthur Crow, Frank Lemon, Miss L. G. Crum (secretary), and Mr. Percy Lovell (organising secretary).

Moving the adoption of the annual report and balance-sheet, Lord Crawford said the society existed in the interests of preserving the beauties of London. Last year they had hoped that before many months had elapsed a satisfactory solution of the Charing Cross Bridge problem might have been available. There had been a number of reports issued on that matter, and now one was as bewildered as much as ever before. Some years ago the London Society organised an exhibition of drawings and models illustrating a possible solution. He wished the London County Council would now have an exhibition of the drawings recently submitted to Sir Leslie Scott's committee, and at the same time let the public see the admirable model made for the Private Bill Committee of the House of Commons last year. They would then have data on which to form a judgment. He expressed his pleasure at the Ministry of Health having produced a new Town Planning Bill. He trusted, when the Bill passed into law, the London County Council would take up the responsibility for the preparation of plans for the whole of London. Alluding to the new buildings of the London University, he said that he hoped the University authorities would preserve the charms of old Bloomsbury. He asked all to join in the endeavour to preserve the Foundling Hospital.

Professor Beresford Pite, seconding the motion, said that he feared that when Charing Cross Bridge eventually came to be built it would not be the architectural equal of London or Waterloo Bridges. Sufficient attention was not paid to-day to scholarship in architectural design, due to the speed with which buildings to-day were erected. He was afraid that the new London University building in Bloomsbury would not be as scholarly, as architecturally interesting and as magnificent as the great British Museum or University College in Gower-street. The frantic building of the present time was ephemeral: the cheap shop and modern cinema theatre would not survive as the great London buildings had done. Chief among the latter were the Houses of Parliament, which were, in his opinion, the most artistic and magnificent group of buildings in the universe, both in themselves and in their situation. The Law Courts, again, were a monumental work of artistic genius.

Mr. Lansbury, First Commissioner of Works, pleading for the preservation of the beauties of London, said not only should that be the aim in regard to the great buildings of the Metropolis but also in the places where the working people dwelt. Speaking of the Charing Cross Bridge schemes, he said that it was also important to see that proper provision was made for the people who would be displaced, especially on the south side of the river. He was severely attacked when he suggested, in vain, that we should have a carillon in Hyde Park. People pointed out the cost of providing a New Zealand pavilion, and also the ugliness of it. He was, however, walking through Hyde Park recently, and he saw in Park-lane a couple of the ugliest buildings, and from the Reformers' Tree another hideous building stared one in the face. He could not inflict such monstrosities on the amenities of Hyde Park as had already been inflicted without anyone saying a word.

BOOK REVIEWS

Amphion, or the Nineteenth Century. By Dudley Harbron, F.R.I.B.A. London: J. M. Dent and Sons, Ltd. 6s. net.

Many readers will remember parts of this book, which appeared in serial form in *Architecture.* These have now been brought together by the author to form a complete and coherent story of the nineteenth century. It is an entertaining story; it is a history in miniature of the vagaries of architecture, threaded through and through by the developments in social reform, prosperity, wealth, religion, education, and humbug.

"It may be true," as the author says, "that we have a distorted view of the whole; that we cannot encompass it; that none of it is worth bothering about." We feel that he has proved very conclusively that it is worth bothering about. Anyone who has the least regard for architecture as an expression of life, instead of an individual drawing-board expression of design, must feel intensely interested in that queer architectural compound that went to make up the nineteenth century. Causes and effects in architectural history are vital, and they are fundamental, in the sense that we ourselves can leave nothing better for posterity to inherit their architecture.

It is so fatally easy to write down every fault to the Victorian age, to trace the beginnings of ugliness and vulgarism to that age, and even to find in it the complete explanation of the whole economic and industrial system that is our present discontent. The author wisely avoids this well-worn track that leads to nowhere. There is no doubt that the Victorian age was in many ways a wonderful age, an age in which many entirely new problems were being solved. A variety of mechanical inventions gave man an entirely new control over the forces of nature, and a new knowledge of the laws of nature. Disraeli described the age as one which, with the help of mechanical inventions, had mistaken comfort for progress. The character of the architecture of the nineteenth century sufficiently proclaims the period as eventful, and the author considers that the adventures of the times are faithfully mirrored in its buildings. The Oxford movement made a mark, the Pre-Raphaelite Brotherhood left an impression, while the railways not only provided facilities for travel, but permitted materials to be brought from remote places to destroy the unity, harmony and tradition that belong to native materials. More important still, in its architectural consequences, was the passing of the Education Act. Because of these things, or perhaps despite them, the author, recognising that life is related in all its aspects, believes that the architecture of the nineteenth century did not fail to express the century. "It succeeded only too well in writing in durable materials its aspirations and ideals; its inventions and discoveries. If the result is not attractive it is because we who now observe have different ideals."

We confess we do not see cause and architectural effect so clearly as the author, and we have the suspicion, to which he hints in his introduction, that architecture was intensely personal and displayed conspicuously the character and individuality of the architect. We are conscious of this feeling as we read the dozen or so wholly delightful chapters dealing with the works of well-known architects, each in their setting surrounded by their political, social and industrial influences. In these days it is difficult to imagine the influence of a fiery Welby Pugin, of Ruskin's teachings, of William Morris, and the Pre-Raphaelite Brotherhood. These influences make us wonder how much of the architecture of the nineteenth century was purely personal. The author remarks in one place: "It is useless to search for the origin of such a building anywhere than in the artist's mind," and again: "But whereas they (certain architects) selected with discretion, others without their ability and judgment were not so successful. If similarity was monotonous—and theorists said that it was—why not try variety? So reasoning, every architect was encouraged to inflict his personal preference upon any corner of the kingdom in which he was asked to perform." We raise this point—an important one—granting, in fairness to the author, these influences as a characteristic of the age, but in doing so we are still a little in doubt about how far architecture is expressed through the people. In short, we wonder whether the architecture is more the result of the imperfections of the architect rather than the social and economic influences of that century. One sentence giving the other side of the argument may illustrate our point: "In the nineteenth century there was only one persistent train of thought, if the desire to amass wealth can be dignified under such a heading. The accumulation of riches, as an end in itself, is not a fruitful ideal." With this we entirely agree, but still we wonder to what extent it has given its direct expression to architecture. In a few lines the author expresses his opinion upon the results attending upon the pursuit of wealth, and these few lines suggest to us that the author has the ability to outline this subject at greater length—the expression of a century through the people, or through the education and individuality of the architect. We wonder whether infinitely much more time is being spent to-day by everyone in thinking and talking about wealth and prosperity in our industrial sickness, than in the days when *trade was good* and laid waste our green and pleasant land.

These thoughts arise from this entertaining history of the nineteenth century. They are, more particularly, our thoughts upon the author's conclusions. The complete historical review is admirably sustained and illustrated by a number of delightful illustrations from pen drawings. The book is not only an invaluable history, but an excellent stimulant for those who care to trace the philosophy of civilisation and the architecture it expresses.

The Honeywood Settlement. By H. B. Creswell, F.R.I.B.A. London: 9, Queen Anne's Gate, Westminster. Price 7s. 6d. net.

In this volume Mr. H. B. Creswell concludes the story of Honeywood Grange, which was begun so entertainingly in "The Honeywood File." The mansion is now complete, but it begins to reveal an alarming succession of defects. Damp and dry-rot appear; the drains are suspected of being defective; a special kind of paint, known as "Riddoppo" (used at the request of the client against the advice of his architect and builder), begins to "crawl" off the walls; and there are long-drawn-out disputes over variations, extras, and other irritating matters. How all these troubles are overcome the reader must find out for himself; it would not be fair to deprive him of the entertainment of personal discovery.

Most of the characters which we encountered in the earlier volume reappear—Spinlove, the well-meaning but temperamental young A.R.I.B.A.; the client, Sir Leslie Brash, as pompous, tautologous and infinitive-splitting as before; Lady Brash, still delightfully inconsequent; Grigblay, the competent and level-headed builder; Miss Phyllis Brash (the client's charming daughter) and others. The letters convey an extraordinary sense of reality, and as we read we obtain a clear and convincing picture of the personalities behind the correspondence.

The signs of a romantic attachment between Spinlove and the daughter of the house which we thought we detected in the earlier volume were not misleading, and, as we anticipated, the "Honeywood Settlement" ends with a honeymoon settlement. "In wishing Spinlove the best of luck," writes the author, "we must not forget that this affair of his (marrying his client's daughter) holds out new terrors to some who may be toying with the idea of employing an architect; and it is therefore desirable to make clear that Spinlove's behaviour in this matter is entirely unprofessional."

"The Honeywood Settlement" is not only amusing but instructive, and should make excellent reading for architects, clients, builders and all others who propose to indulge in building operations.

DOMESTIC LIGHTING

In a paper on this subject before the Illuminating Engineering Society, Mr. H. T. Young, M.I.E.E., said that of modern domestic lighting design to-day architectural lighting was the most interesting of all, and was a term now applied to all forms of lighting forming an integral part of the room construction. This was usually at its best in restaurants, theatres, and shops, and this way of lighting public places had helped people to appreciate the great value of lighting in their homes. It was more difficult to introduce into residences, as it usually called for special work in the erection of the house or structural work in connection with the installation. Those considerations, and also the fact that it was not so easy to change, stood somewhat in the way of its development domestically. It was usually best employed in rooms where the lighting requirements were least likely to change, such as bathrooms, dining-rooms, entrance halls, corridors, and in some bedrooms. An important point for both the designer and engineer to bear in mind when fitting large illuminated surfaces in a room was that the light source must be bright to be interesting. Mistakes were already being made in the attempt to spread out a small amount over too large an area.

Indirect lighting was usually fascinating, but it had suffered in the past from the fact that people installing and using it did not quite understand the reaction of the human eye and brain to artificial light. Glare was intolerable, but indirect lighting from ceilings without assistance from low interesting visible light sources somewhere about sight level was tiring and depressing. It promoted a feeling similar to that which was experienced in a pit, unless the walls were very light. The best lighting of to-day and, possibly, of the future seemed to be a combination of indirect with direct light sources.

The lecturer then gave some examples of the application of lighting to various rooms. In the dining-room a soft light was usually required, and a very slight amber tint in a good strong light of 4 to 5 foot-candles on the table was ideal to-day. A method of achieving this, apart from suspended fittings, was to fit panels to the ceiling over the table, faced with an oiled paper with a slightly mottled amber tint, and behind each panel a 60-watt lamp in a reflector.

The carving-table or sideboard might be lighted with a tubular fitting containing a 60-watt double-ended lamp, round which might be fitted an adjustable reflector giving 6 foot-candles for carving. A small table lamp on the opposite side of the room near to the window curtains would give depth and interest to the room. The walls could be parchment colour and the ceiling a cloudy blue. Sitting-rooms, libraries, and such-like rooms required a centre light more for general utility than decoration, and it should be possible to turn off this light and use portable and/or wall lights and other diffused methods for decorative effects and comfort. Local lighting was essential either from a standard lamp at the bedside or from a lamp over the head of the bed, and should be easily controllable by a switch from the bed. Good general light was necessary in addition, also provision for a portable lamp near the fire. A light for each wardrobe and cupboard was necessary, and there was usually room for this in one front corner close to the door.

When installing the wiring, it was desirable to provide for 50 per cent. margin over the known or estimated load and to allow for as many plug points as possible. Two-way and multiple switches for controlling lights from two or more positions were a necessity for corridors, staircases, and some rooms. Automatic switches for turning on and off lights with the opening and closing of cupboard and wardrobe doors were very convenient, and they were now quite reliable.

LAW REPORT

KING'S BENCH DIVISION.

Before Mr. JUSTICE ROWLATT.

ARCHITECT'S CLAIM FOR FEES.— JUDGE AWARDS £4,000.

Tilden v. Realty Trust, Ltd.

This was an action by Mr. Philip Tilden, F.R.I.B.A., of Regent street, against the Realty Trust, Ltd., of which Mr. W. A. Richards was managing director, claiming the balance of fees alleged to be due from defendants, in connection with a proposed block of flats in Hertford-street, Mayfair.

Plaintiff's case was that the defendants, under an agreement, engaged him to prepare plans, specifications, etc., for a building the defendants proposed to erect in Hertford-street, at a cost of £200,000, on which his remuneration was to be at the rate of 3½ per cent. on the cost of building. Plaintiff alleged that the defendants agreed to commence building on or about January, 1929, or at any rate within a reasonable time, which they never did. Plaintiff admitted that he had received £1,450, for which he was willing to give the defendants credit. In the alternative, plaintiff alleged that he was entitled to be paid for his services by way of *quantum meruit*.

The defence was a denial of any such contract as alleged, and that the plaintiff, in June, 1929, by letter and by the commencement of the present proceedings, refused to continue to act as architect. The defendants counterclaimed for £1,550, part of which was alleged to have been a loan, or alternatively they counterclaimed for the sum of £1,050.

Mr. Pritt, K.C., and Mr. W. Nicholls appeared for the plaintiff, and Sir F. P. M. Schiller, K.C., and Mr. H. G. Robertson for the defendants.

Mr. Pritt said the action was for damages for breach of contract or for fees on what might be called an abandoned scheme. The arrangements were made between the plaintiff and Mr. Richards, who was acting for the defendants, carrying on business in St. James's-square, London, with other associated companies.

It was stated that the defendants had settled with all the ancient lights claims for a sum of £13,000.

Judgment.

His lordship, in giving judgment, said this was an action by an architect to recover remuneration for work done. Here the architect had to make plans, and to his mind it was impossible for architects to do business if they had to do all that on speculation. Therefore, an architect who was induced to use all his skill as an architect and to put that skill into his labours, must be paid a fee to compensate him for the labour thrown away. It was in his lordship's view an implied term between the parties that if the contract did not go through, and the owners did not like to go on with it, then the owner must make some arrangements to pay the architect for what he had done. It was true that here there was delay. There were ancient light difficulties and other difficulties. But his lordship found, as a fact, that notices were given to the local authorities on December 24. To his mind it was obvious that this delay was not necessary. The work ought to have been begun before. Nothing had been done to date, because one owner on the site was standing out. The work was delayed in a way to cause serious hardship to plaintiff and was not expected. In his opinion it was clear that there was to be a payment to the plaintiff for work he had done. The question, therefore, was, what amount of remuneration was the plaintiff entitled to? The building would have cost over £200,000. In this matter he had to bear in mind that he had not been helped by the defendants with evidence. He gave judgment for the plaintiff for £4,000, after making the necessary adjustments, with costs.

ILLUSTRATIONS

(*Continued from page* 612.)

in height, will be of steel frame construction, the elevations being in Portland stone and silver grey facing bricks.

The total cost is estimated at £136,625.

In the case of the second premiated design, by Messrs. Nicol and Nicol, FF.R.I.B.A., the solution is obtained by bisecting the angle formed by the two roads and placing the main entrance upon this axis and planning the various clinics in a radiating form from a central hall, which ensures a perfect system of circulation and ventilation throughout the whole of the buildings.

The general scheme consists of a central block and two wing blocks, one fronting Tower Bridge-road and the other Purbrook-street. The rooms generally are planned on one side of the corridors only, and it is therefore possible to get adequate cross ventilation to all rooms and well lighted and ventilated corridors. The corridors on all floors radiate from the central hall containing the staircase and lifts, making it possible for all the clinics to be self-contained and easily accessible. It is proposed that the future extensions should take the form of additional floors over the central block.

Southport Market Hall.

This is a perspective drawing of the first premiated design in the recent competition, which was illustrated in our issue for September 5, 1930. The building is now in course of erection. The general contractors are Messrs. Duxfield Bros., Ltd., of Southport, and the following are sub-contractors: Edward Wood and Co., Ltd., Salford, steelwork; Constone, Ltd., Leicester, stonework; Luxfer, Ltd., London, patent glazing; MacLean and Co., Glasgow, pavement lights; Sherrington and Co., Southport, plumbing.

Mr. Herbert Langman, F.R.I.B.A., is the architect.

Barclays Bank, Antigua, Leeward Islands.

This bank has been erected for the Colonial Bank section of the Barclays Bank (Dominion, Colonial, and Overseas) from the designs of Mr. H. Guy Holt, F.R.I.B.A., who was also responsible for ordering and arranging the shipment of various materials and items of construction which had to be sent out from England. In common with most buildings in the earthquake and tidal wave zone in the West Indies, the structure is of reinforced concrete, and special care was taken in the construction of the cornices and overhanging eaves, in view of the hurricanes which periodically sweep the island, and for the same reason the roof pitch is very low. On account of the strong sunlight glare and wind, jalousie-louvred hurricane shutters are provided to the window openings, and the wide loggia across the frontage affords coolness to the interior of the bank. The exterior is rendered in pale cream stucco, and the roof tiles are russet brown asbestos; jalousies and entrance grates and grilles are in pale olive green.

The contractors were Messrs. J. F. Huggins and Co., of Trinidad, and the building was erected under the supervision of Mr. J. Carrera. The Royal Coat-of-Arms over the main entrance was modelled and supplied by James Walker (Architectural Decorations), Ltd., who also supplied the fibrous plaster ceiling and other decorative work. The strong-room is of reinforced concrete, specially designed by the architect, and the strong-room door and fittings by the Ratner Safe Co. The entrance gates were supplied by J. R. Pearson (Birmingham), Ltd., steel windows by F. A. Norris and Co., bronze cashier's cage and counter grille and brassmongery by Walter Cassey, Ltd., and the sanitary fittings by Musgrave (Liverpool), Ltd.

THE WEEK IN PARLIAMENT

WESTMINSTER, Wednesday.

Town Planning.

Mr. Freeman asked the Minister of Health how many local authorities had taken advantage of the Town Planning Act and how many had not done so; and whether, in view of the results so far achieved, he intended to take similar action with regard to country planning in rural and county areas

Miss Lawrence, who replied, said that the number of town planning authorities in England and Wales was 1,764. The number of town planning authorities who had prepared schemes which had already been approved, or were preparing schemes for approval for areas in their own districts, was 493, and schemes had been approved or were being prepared for areas in 214 other districts by neighbouring authorities or joint committees. In addition, approximately 360 other town planning authorities were represented on advisory joint town planning committees. In reply to the latter part of the question she referred her hon. friend to the Town and Country Planning Bill introduced in that House.

Mr. D. G. Somerville asked if the Town and Country Planning Bill had been submitted to the different local authorities of the country for their comments; and whether the private interests affected would be afforded an opportunity of expressing their views by the grant of adequate time before the measure was submitted to the House in its later stages.

Miss Lawrence said that the Bill had not been submitted formally to all the local authorities for their comments, but it was drafted after prolonged conference with the persons familiar with the problems, including persons experienced in local government. There would be plenty of opportunity for interested bodies to express their views, and the Minister would be very glad to arrange for conferences with representative bodies.

Rent Restrictions.

Mr. McShane asked when the departmental committee on the Rent Restriction Act was expected to make report.

Miss Lawrence said that the inquiry was making good progress, but the Minister was unable at present to give any precise indication of the date when the report might be expected.

Russian Timber.

Mr. Price asked the Minister of Health whether he was aware that an order had been issued by the housing committee of the London County Council prohibiting the use of Russian timber on their housing schemes, and that in consequence of this Scandinavian timber was being used on these schemes at from £1 to £2 a standard dearer than Russian; and whether, in view of the expenditure of public money through grants on these schemes, he would make representations to secure the use of the cheaper timber.

Miss Lawrence said that the Minister was not aware that any such order had been made. It was the practice of that Council to give preference so far as was practicable to materials produced in the British Empire.

Rural Housing.

Sir A. Steel-Maitland asked when it was the intention of the Government to introduce a Bill to extend the operation of the Housing (Rural Workers) Act.

Miss Lawrence said that the Minister regretted that he could not yet specify a date for the introduction of this Bill, but it would not be long delayed.

The Unemployed.

Miss Bondfield, Minister of Labour, informed Sir K. Wood that the following table showed the number of insured persons in the building industry classification recorded as unemployed in Great Britain at February 23, 1931.

Occupation.	No.
Carpenters	28,414
Bricklayers	14,617
Masons	4,222
Slaters	1,605
Plasterers	6,273
Painters	40,188
Plumbers	6,969
Labourers to above ...	55,659
All other occupations ...	49,791
	207,738

Municipal Rents.

Mr. Simon asked the Minister of Health whether he was aware that the unskilled labourer with a family was normally unable to pay the rents which were being charged for the new subsidised municipal houses, and that the subsidies were to a great extent being given to persons who could reasonably afford to live in an unsubsidised house; and whether he was prepared to inquire into the extent of this misdirection of the subsidy with a view to the possibility of preventing it by legislation or otherwise.

Mr. Greenwood said he was aware that in some cases the rents of houses provided under the Housing Act of 1924 were more than the lowest paid workers were able to afford, but the financial arrangements of the Housing Act of 1930 would enable local authorities to let a substantial proportion of the houses provided by them under that Act at rents within the means of these workers. He was not aware that local authorities who were responsible for the management of the houses provided under the Housing Acts were letting them to persons for whom they were not intended—nor was he aware of any general misdirection of subsidy such as the hon. member suggested.

Hadrian's Wall.

Sir Ernest Bennett asked the First Commissioner of Works whether, in view of the recent discoveries by aeroplane of hitherto unknown camp sites along the Roman Wall, he would consider undertaking the excavation of these and other portions of the Wall system.

Mr. Lansbury said he had at present no power to undertake such excavations, and, in any event, it was probable that more urgent archæological problems in connection with the Wall should be dealt with first.

The Dumping of Refuse.

Mr. Mills asked the Minister of Health whether he intended to bring in a Bill with a view to legislation being passed to put an end to the nuisance and annoyance caused by the dumping of house refuse by one sanitary authority in the area of another sanitary authority without the latter authority's consent?

Miss Lawrence, who replied, said it was not proposed to bring in a Bill this session for dealing expressly with the dumping of refuse. She might say, however, that the Town and Country Planning Bill recently introduced would strengthen the hands of the planning authorities in preventing or controlling the use of land for such a purpose. Local authorities might also prevent nuisance if by-laws dealing with the disposal of refuse were made betimes and strictly enforced.

Cost of Subsidies.

Mr. Gossling asked the Minister of Health whether he could state the approximate total capital cost of all State assisted houses erected in England and Wales between the years 1919-30, inclusive; and the total amount of housing subsidies paid from the Exchequer to local authorities in England and Wales during the same period?

Miss Lawrence replied that information as to the capital cost of all State-assisted houses was not available, but it was estimated roughly at about 600 million pounds between 1919 and 1930. The total amount of Exchequer subsidies paid during the same period in England and Wales was £93,530,000, of which £82,045,000 had been paid to local authorities.

INQUIRY BUREAU

Covering a Water Tank.

SIR,—Might I ask if you can kindly give me the names of manufacturers of a material composed of metal and bitumastic, or similar substances, suitable for the covering of a circular elevated steel water tank?

WATER ENGINEER.

Reservoir Question.

SIR,—I am building a reservoir, 60 ft. by 24 ft. by 10 ft. deep, the walls being constructed with reinforced concrete, and as there are several springs bubbling up in the bottom I am spreading clay 4 in. thick over the bottom, but leaving bare the places where the springs come through. Is clay the proper material to use, or will it make the water in the reservoir muddy?

READER.

"Peeling" of Ceilings.

Sir,—I should be glad if your readers could offer an opinion as to the cause of "peeling" on ceilings under the following circumstances. The house in question was built about eight years ago, and the ceilings, which look normal, were originally white-washed. Three years ago they were redecorated by my men; some whitened, others distempered. Soon after, they all began to "peel." I was inclined to blame my men for not having properly "washed-off" and had them re-done, seeing to it personally that the ceilings were properly prepared before distempering, etc. The trouble, however, recurred, and has done so periodically since; no matter how much the defective portions of the ceilings are washed or scraped. The trouble is general—ceilings and friezes in living-rooms, bedrooms, hall and kitchen, and is not, therefore, due to local circumstances, such as greasy fumes from cooking. Moreover, in places where subjected to warmth—over chimney breasts, near radiators, etc.—the wall-papers become detached from the walls. Can you offer any suggestions as to cause and cure?

"CEILINGS."

ELECTRICAL DEVELOPMENT

Sir William Bragg, K.B.E., F.R.S., speaking at the annual luncheon of the British Electrical Development Association at the Savoy Hotel, on March 20, after referring to the usefulness of the British Electrical Development Association and the success of its operations, said that he had been asked to make some reference to the forthcoming Faraday centenary celebrations, a matter in which all users of electricity must be deeply interested. It was indeed to the series of discoveries made by Faraday in the half-dozen years of which 1831 was the first, that the huge electrical developments of the past century were due, and all who belonged to the Association might ascribe to them the origins of their activities and perhaps of their livelihood. The experimental skill and the intuitive judgment of Faraday had made plain the laws of electricity and magnetism, whose development had so affected the whole of the world. He had laid the foundations on which electro-magnetic theory had been built, and on those same foundations their own operations were securely based. The speaker also referred briefly to some details of Faraday's work and of the manner in which it was proposed to illustrate the work and its consequences in the exhibition at the Albert Hall in the coming September.

The toast of the "E.D.A." was responded to by Alderman E. Huntsman, the president.

An Architect's Estate.

Mr. Henry Stead, of Heckmondwike, Yorks, architect and surveyor, left estate of the gross value of £7,923, with net personalty £7,665. He left £1,000 to Heckmondwike Urban District Council, the income to be applied annually in the purchase of blankets and coal, to be distributed each December to such of the deserving poor of the district as they shall determine.

THE BUILDING TRADE

ESSAYS ON BUILDING PRACTICE.—XIV

By J. R. TAYLOR.

BILLS OF QUANTITIES. Part II.

It is only in recent times that any determined or fruitful effort has been made to effect an all-round improvement in the methods of preparing quantities; recent, that is to say, in comparison with the length of time during which quantities in some form or another have been found to be necessary for the preparation of anything but approximate estimates. But though it was not until 1909 that the first committee of the Quantity Surveyors' Association was appointed, having the improvement of method as its sole aim, the necessity for definite action had been realised long before, and the difficulties imposed upon the estimator by reason of the diversity of practice had been the subject of much debate. Many of those who had suffered from the multiplication of errors traceable to the want of uniformity that then existed and to a lesser extent still exists, offered suggestions with a view towards improvement. But though these debated suggestions did not lead to much immediate result there were other forces at work, and there can be little doubt that most of the arguments put forward received due consideration when at length the Quantity Surveyors' Committee was appointed.

Simplified Quantities.

For various reasons, probably the most important being the outbreak of the War, the report and recommendations of the Committee did not come to hand as early as anticipated; nor, when at length they were published, did they receive as much recognition and general acceptance as they merited.

One effect of the War was that the interrupted training of the new arrivals into the professions and building trade resulted in a loss of touch with the progress made towards better quantities. In consequence, when the newcomers found themselves faced by the old-time difficulties they threw out, under the impression that they were breaking new ground, suggestions for improvement that had often been debated.

Probably the most often-suggested method of obtaining relief is that along the lines of a simplification of quantities carried to the point where, for small jobs, the bills would come to be as nearly as possible a complete list of the materials comprised in the work. To this, it is suggested that the builder would add his prices for the labour and thus be able to arrive at an estimate without difficulty. If this were possible it would not be long before the whole of the materials were in some bills prime costed, as is now so often the case with the lists of ironmongery. The builder would be not only told what to buy and where to buy it, but would have no voice in the decision as to what price was to be given for it. In some cases this might result in better building, but it would not make for cheaper building, as not a few architects who have been tempted to try have found to their cost.

Fortunately or otherwise (I think fortunately) there are too many difficulties to be overcome before reasonably accurate lists of materials can be prepared by those not thoroughly trained to the work in a builder's office. Lest it should be thought that I am claiming more skill on the part of the builder or his assistant than can be shown, I hasten to concede that in many respects this skill is accidental—that is to say, it comes to him because he is a builder and not because he has gifts denied to the architect or the quantity surveyor. But the contrary opinion is in some quarters so strongly held that a more detailed examination is worth while, and an example or two may be given.

We will assume that a quantity surveyor is asked to prepare accurate lists of the materials for a small house, and that amongst a great many others he has to determine in advance the exact quantities of sand, lime and cement required. He probably knows more about measuring interstices than the average builder, and thus has an initial advantage. Given standard sand as used in testing and cement from a known source, he will be able to calculate to a nicety how much sand and cement will be wanted for a given volume of mortar; and on a tried-out aggregate he will get a closely approximate result as to how much of this mortar will be wanted for concrete.

So that his job shall not be too easy, we will assume that stone lime will be used, and is obtainable at several local quarters, pit sand from local sources of supply, and that the architect has in the interests of economy left it to him whether he will use broken stone, broken brick or gravel for his aggregate.

He decides from which sources he will draw his supplies because exact proportions cannot be calculated until these are known. He therefore writes for quotations and samples, and he can take it from me that the quotations will be a little higher, and the samples look a little better than those that would be given to the local builder. He will be more than ordinarily fortunate if the quotations are comparable by reason of being by a measure of volume and not weight. We will, however, concede him this because by insistence he may get them in this form, though again at some risk to the price. But he is not nearly through, because it is the exact usable quantities that he has to deal with, and his samples will not tell him what will be the amounts of sand and lime rejected by the screens, nor, except to a limited extent, what his lime will gain in volume when slaked. He has still to decide on his aggregate, and the quantities of mortar it will require. But I know something of quantity surveyors, and suggest that if the architect were not meanwhile writing to say that "the Bills are now long overdue" they would find all this information rather than set down a figure they could not prove.

But there is still the human factor to be taken into calculation, and the surveyor must know the average amount of mortar the bricklayers will spill into the cavity as well as what quantity will be wanted for torching a roof; the amount of timber that will be used for boiling tea for the clerk of works and the amount legitimately wasted in cutting down floor boards. Even the amount of mortar that will squeeze through plastering laths slightly differently spaced may be mentioned, though in this case, as in pointing out that the depth of a rebate will influence the amount of putty used in glazing, I am perhaps straining my argument. But when I mention that the amount of paint used will depend on what my painting friends call the "suction," I am again on firm ground. I should, however, love to see him wrestling with a catalogue of plumbers' fittings when the runs are slightly complicated and the piping used is galvanised tube with fittings as listed and supplemented where necessary with malleable specials.

Quantities did not assume their present form by accident, and this project for their so-called simplification has been mooted often, tried on occasion, but has always been abandoned or so modified that the compromise bore but small resemblance to the original proposition.

The Influence of the Estimator.

Though something like a list of materials was the earliest form that quantities took and this gave them their title of "bills," it is improbable that they were much used when thus prepared as a basis for competitive tendering, and it cannot have been long before modifications were found to be necessary. But to come down to times when they began to take on a more familiar shape, we find from the columns of *The Builder* and other journals that in the 'seventies the points debated were such as whether a builder who had prepared quantities himself and taken up items that were neither shown on the plans nor mentioned in the specifications could be compelled to perform these works. Many controversies centred upon the question as to how far the builder was bound by bills of quantities that did not form part of the contract and were deposited as schedules of prices only; and in respect to these questions it is necessary to remember that at that time, at all events in the provinces, most bills of quantities were prepared by or for the builder. This is very important, because a great deal of the want of uniformity in method is due to this cause. Many builders had not sufficient business to justify full-time employment of a man capable of taking quantities, and this led to the employment of free-lance estimators serving a number of builders. Many old-established practices originated in this manner, and the founders' first duty was to the builder rather than to the architect or building owner.

These men were estimators who not only prepared quantities for their own group but priced estimates on quantities supplied by architects or by other estimating surveyors; and so it came about that, subject to small modifications suggested by personal experience, various systems came into existence and received adherence over fairly wide areas.

Another advantage enjoyed by the free lances lay in the fact that, being estimators also, quantities from all sources came under their notice. They could not for long have maintained a reputation as estimators without a knowledge of values, and this faculty enabled them to pick out the good and bad qualities of most forms of quantities that came to their notice. It naturally followed that in their other capacity—that of measuring and valuing on completion on behalf of the builder—they were fully equal to all ordinary occasions.

But the architect refused to be either beaten or out-manœuvred by this new product. He recognised that the best way of meeting the new circumstances was to bow to them, but at the same time to turn them to the best interests of his clients, if possible. He therefore decided to recognise the position of quantity surveyors as carrying professional status.

The Standard Method of Measurement.

From the time that quantity surveyors won for themselves complete professional status the quality of the bills has shown a marked improvement on the whole, but in one respect there has been cause for some disappointment. It is rather extraordinary that in some quarters so much ignorance should still exist not only as to the authority for but the very existence of an authorised method of measurement to be used in the preparation of quantities, and it may serve a useful purpose to set out the full title of the work in which the agreed system is embodied. The front page of the 1922 Edition carries the Title and Authority thus:—

"Standard Method of Measurement of Building Works. Authorised by Agreement between the Surveyors' Institution, the Quantity Surveyors' Association, the National Federation of Building Trades

Employers of Great Britain and Ireland, and the Institute of Builders."

From the preface it is to be gathered that for the preparation of this work a Committee of the Quantity Surveyors' Association sat from 1909 onwards, that the Surveyors' Institution came in in 1912, that representatives of the building trades were added in 1918, and that the joint committee thus formed has continued to act ever since (a new and revised edition was published last year). In face of all this, the fact that some architects, if not hostile to it, at least totally ignore it, arouses doubt whether the realities underlying the call for Rationalisation are really appreciated.

The standard method is not the last word, and it is still capable of being very much improved in many directions. But the matter of improvement presents great difficulties, and, despite the urgency, must take a good deal of time, where so many differing though not necessarily antagonistic interests are concerned. It does, however, represent the considered opinion of some of the acutest brains in the profession, arrived at after long examination of evidence that is not available to most of us, and their findings are entitled to great respect.

DE-RATING

THE Court of Appeal in July delivered judgment in seventeen cases under the Rating and Valuation (Apportionment) Act, 1928, and they were reported in *The Times*, July 12. Some of these cases have since been the subject of appeal to the House of Lords, but there are at the moment no extended reports, and thus we give the interpretation placed upon the Statute by the Court of Appeal showing how far the principles adopted by that Court have been approved or varied by the House of Lords, as thus it should be possible to derive some principle which will apply to all cases decided under section 3 of the above Act. But in the first place we must point out that, although it was contended that in such cases the appellate tribunal could deal with the facts, this contention was negatived, as it was held that under section 31 of the Rating and Valuation Act, 1925, the appeals were limited to questions of law.

Section 3, subsection (1) of the Act of 1928 provides "In this Act the expression 'industrial hereditament' means a hereditament (not being a freight transport hereditament) occupied and used — subject as hereinafter provided—as a factory or workshop," but it is provided that the expression "industrial hereditament does not include a hereditament occupied and used as a factory or workshop if it is primarily occupied and used for the following purposes or for any combination of such purposes, that is to say, for purposes (*a*) of a dwelling-house; (*b*) of a retail shop; (*c*) of distributive wholesale business; (*d*) of storage; (*e*) of a public supply undertaking; (*f*) any other purposes whether or not similar to any of the foregoing which are not those of a factory or workshop." By sub-section (2) it is provided that any place used for the housing or maintenance of road vehicles or as stables shall not be deemed to form part of the factory or workshop, but save as aforesaid the expressions "factory" and "workshop" have respectively the same meanings as in the Factory and Workshop Acts, 1901 to 1920. Lord Justice Scrutton, in the only judgment yet reported in full, pointed out that the word "means" used in this definition was a comprehensive definition as distinguished from the word "includes," which when used leaves something yet to be defined, and he summarised the definition of industrial hereditament derived from the above subsections and section 4 as follows: "A hereditament occupied and used as a factory or workshop but not primarily used for any one or more of the specified purposes the last of which is 'any purpose which is not that of a factory or workshop,'" section 4 making it clear that a hereditament may be used in part as a factory and workshop and in part for other purposes.

The Lord Justice then pointed out that it was in connection with the word "purposes" that a difference in interpretation had arisen in the Divisional Courts here and the Scotch Courts, for the Courts here had not merely looked at the way in which the hereditament was used, but also at the ulterior purpose for which it was used, and the Court intimated that such a construction would render the Act practically nugatory. The Lord Justice gave two imaginary illustrations: A factory in Birmingham makes goods for sale at a retail shop belonging to the same owner; according to the decisions in the Divisional Courts the ulterior purpose is regarded and the factory held, primarily occupied and used for the purposes of a retail shop; similarly if the owner of a factory sells all his products wholesale from his offices in other places, according to the above principle the factory is primarily used as a wholesale distributive business. The Court of Appeal dissociated itself from this principle, and the following passage from the judgment is instructive, as Lord Justice Scrutton is reported as saying: "In my view the proviso in the Act dealing with 'primary purpose' was intended to cover the following state of things. You find on a hereditament something which is a 'factory or workshop,' but you also find something which is not a factory or workshop—a dwelling-house, a retail shop, etc. If, after considering the relevant evidence, the area of the various uses of the hereditament, their respective values, comparison of the amount of work done under each head, you are satisfied that the primary principal substantial use and purpose of the hereditament is non-factory, you do not de-rate because the hereditament is not industrial. Unless you are satisfied of this you do de-rate, but may under section 4 apportion the hereditament between industrial or factory and non-factory purposes." But the Lord Justice then pointed out that the apportionment section 4 (2) (*b*) leans towards de-rating because if the total value of the hereditament is under £50 you do not have to trouble about carving out the non-industrial part, and if it exceeds £50 you only take out the non-industrial portion if it exceeds one-tenth, and then only as to the excess over one-tenth; and then he again drew attention to the undesirability of considering the use made of the products outside the hereditament in the trade of the owner, or of considering whatever savours of a factory or workshop purpose as merely ancillary to the business carried on outside the hereditament.

The Court then referred to section 149 of the Factory and Workshop Act, 1901, which defines the various classes of factories, and pointed out that non-textile factories were divided into three heads—(*a*) certain premises named in Part I of the Sixth Schedule where steam, water or other mechanical power is used in aid of the manufacturing process, and indicated that two of the cases the subject of appeal fell within this head, viz., metal works which formed part of the use of the premises in the Potteries case, and printing works; that (*b*) premises where steam, water or other mechanical power is used in aid of the manufacturing process mentioned in Part II of the same Schedule embraced two other cases relating to bakehouses, and two relating to shipbuilding yards: whilst under the general clause which embraces factories not specially enumerated (*c*): "Any premises wherein or within the close or curtilage or precincts of which labour is exercised by way of trade or for purposes of gain in or incidental to any of the following purposes, viz.: (i) the making of any article or of part of any article, (ii) the alteration, repairing, ornamenting or finishing of any article, (iii) the adapting for sale of any article," steam, water or other mechanical power being used in aid of the manufacturing process, those cases fell in which the Divisional Courts had adopted the view that manufacture is not carried on "by way of trade or for purposes of gain," where the products manufactured are not sold, but the gain is obtained indirectly by the use of the articles. We have already dealt with this question of ulterior purposes. Then the Court turned to the expression "adapting for sale," as used above in paragraph (iii), because the Divisional Courts had excluded from the De-Rating Act most complicated processes of sorting. The Court indicated that this question must depend on the facts of each case. The original bulk may be such that it cannot be sold either legally or commercially without sorting, and the process may be so complicated and mechanical as to deserve the title of a manufacturing process, viz., adapting for sale. This is a question of fact depending upon whether a substantial change is made in the article to be sold, making the finished article different to the bulk.

It is necessary now to see how the above principles were applied to the actual cases. In Stoke-on-Trent Revenue Officer *v.* Potteries Electric Traction Co., Bailey's Case (W.N. (A.C.) January 10, 1931), the hereditament was owned and occupied by a company, the proprietors of a fleet of 196 motor omnibuses, and 36 were garaged there. Except for the garage the premises consisted of a number of workshops, some of which were metal works within Part I of Schedule VI of the Factory Act, 1901. Some were carpenters' shops, which, as mechanical power was used, became factories if the labour was exercised for trade or gain. The works were used for repair of the omnibuses. The Divisional Court, reversing the Assessment Committee and the Recorder, had held that the primary purpose for which the premises were used and occupied was a non-factory purpose—the running of omnibuses—and that any factory work done was only ancillary to that, and they had considered the case Nash *v.* Hollingshead as binding them to decide that the repair work was not "by way of trade or for purposes of gain," because the gain was indirect. If that had been the only point on which the case could be decided the Court of Appeal would have reversed the finding, holding that it was wrong to regard the ulterior purpose, and that the premises should be de-rated, but another point had been raised by the special case, though not mentioned in the judgment, viz., that under section 3, subsection (2) of the Apportionment Act, it is provided that any place used by the occupier for the housing and *maintenance* of road vehicles or as stables, shall, notwithstanding that it is situated within the close curtilage or precincts forming a factory, and used in connection therewith, not be deemed to form part of the factory, and the Court of Appeal held this provision to apply to the present case, and thus the appeal was dismissed but on different grounds.

But this case has been carried to the House of Lords (*Weekly Notes*, January 10, 1931), and the latter finding has been reversed on the ground that the manufacture of spare parts used in the repair of the omnibuses is not "maintenance." The evidence in the case was that a number of articles was manufactured which otherwise would have had to be purchased for the construction and maintenance of the omnibuses, but it was held that the construction of an article used in maintenance was not in itself "maintenance," as the purpose for which the premises are used is what has to be regarded, and not the purpose to which the product may ultimately be put. There was, however, one part of the premises used for maintenance proper, viz., the painting of the vehicles, and this portion would not be de-rated, but the rest was entitled to be de-rated. In this appeal, therefore, and in one other appeal—Moon *v.* London County Council (W.N. (A.C.) January 10, 1931), where, in printing works,

tickets, bills, notices, etc., were printed in connection with the tramway undertaking—the House of Lords affirmed the principle we have explained above, that the primary purpose for which the hereditament is occupied and used is that which has to be regarded, and not what ultimately is done with the article manufactured, and that the premises should be de-rated, and this covers several of the cases decided by the Court of Appeal.

In Manchester Revenue Officer *v.* Union Cold Storage Company, the decision of a Divisional Court was affirmed, and the appeal dismissed on the ground that as premises used for "storage" were expressly excluded in section 3 (1) (d), it was impossible to believe that cold stores were not present to the mind of the legislature, and this decision was affirmed by the House of Lords (W.N., March 14, 1931). In Ipswich Revenue Officer *v.* Eastern Farmers' Co-operative Association, where the premises contained elaborate plant for cleaning seed and removing foreign matter from it, the Divisional Court was held wrong in holding that the premises were used for "distributive wholesale business" and not for "adapting the seed for sale," and on appeal the House of Lords (*Weekly Notes*, March 14, 1931) laid it down that if the article was put into the condition of a finished article by the processes to which it was subjected, so that the finished article was different from the article in bulk, then that was an adaptation for sale and a manufacturing process, and the same reasoning was applied to two cases mentioned below, *viz.*, the rag case, Revenue Officer *v.* Burrows, and the bottled beer case, Revenue Officer *v.* Watney, Combe and Reid, both those cases being the subject of appeal to the House of Lords (*Weekly Notes*, March 14).

The question of "sorting" was raised in four cases. In Bradford Revenue Officer *v.* Laycock, Son and Co., wool was received as fleeces, sorted and separated into grades, the wool being further matched and blended, and the Divisional Court had held that this was not adapting an article for sale, but this decision was reversed by the Court of Appeal. In two cases, Langbaurgh Revenue Officer *v.* Robert Cheyne, and the Same *v.* A. Bainbridge, the decisions of the Divisional Court were upheld that the sorting and breaking up of scrap metal into sizes in which it could be used in iron and steel furnaces was a factory purpose, and not distributive wholesale business, whilst in Dewsbury Revenue Officer *v.* Burrows, the decision of a Divisional Court was over-ruled that premises on which rags were ripped and cut into different sorts, classified and sorted, were not used primarily for a factory purpose, and as stated above, this decision of the Court of Appeal was affirmed by the House of Lords. In these cases there is no mention of mechanical power, but from other passages from the judgment, as well as from section 149 of the Factory Act, it is clear that mechanical power must have been used.

In Wimbledon Rating Authority *v.* Kerslake, which was taken as a test case, there was a large bakery, bread being sold on the premises or delivered to customers, and there was also a dwelling-house for the owner or manager, and a room over the shop sometimes used as a tea-room. The House of Lords (*Weekly Notes*, March 14, 1931), reversing the Court of Appeal, held that the bakehouse was an ordinary part of a retail baker's shop, and ancillary to the trade carried on at the shop, and the whole hereditament was used and occupied for the purposes of a retail shop.

In Camberwell Revenue Officer *v.* Watney, Combe and Reid, the Court, reversing the Divisional Court, held that carbonising, maturing and bottling beer by machinery was a manufacturing process, and the House of Lords affirmed this.

The two garage cases we discussed in our issue, June 27, have been carried to the House of Lords (*Weekly Notes*, March 14, 1931), and the decisions in the Courts below have been reversed, it being held that the premises were primarily occupied and used for the purposes of a retail shop, since it had been held "repair" was not "maintenance" (see Bailey's Case above).

The only case remaining to be noted is that on which Lord Justice Scrutton dissented from the majority of the Court, Dudley Revenue Officer *v.* Lloyd's British Cable Testing Co., a case we noted in our issue for March 16, and where the Divisional Court had decided that the premises were not entitled to be de-rated. Cables under licence from the Board of Trade were tested, and the process involved the use of heavy machinery, sample pieces being cut out and subjected to a breaking strain, and if they stood the test rejoined, which resulted in an elongation of the cable and an alteration in the shape of each link. The Divisional Court held this process not to be "adapting an article for sale," a view with which Lord Justice Scrutton concurred, though with some hesitation, but the majority of the Court held this to be adapting the cables for sale. They could not be sold without this operation of testing, and it involved some physical alteration and reconstruction, and on the general principles laid down, they found it impossible to hold that this was not a factory purpose, but this decision has been now reversed by the House of Lords (*Weekly Notes*, March 14), where it was held the hereditament was primarily occupied and used for testing purposes, which was not a factory purpose, though carried on in a hereditament which was a factory but fell within the exception in section 3, subsection (1) (*f*).

In conclusion, it may be of some assistance to give some general directions contained in the judgment by Lord Justice Scrutton, in which the rest of the Court apparently concurred, although he indicated they might be temporary until appeals had been made to the House of Lords. The directions were as follows:—(1) There must be on the hereditament or part of it a factory or workshop. (2) So far as that factory or workshop is not specified in the two Parts of Schedule VI in the Factory Act, 1901, it will be carried on "by way of trade or for purposes of gain," if its products are to be sold in trade or directly used in carrying on a trade. The fact that the products are only used to enable a trade to be carried on does not prevent the manufacture being for trade or gain. (3) Whether sorting operations can come within "manufacture" to make the premises a factory or workshop is a question of degree in each case. (4) A hereditament with a factory in it will be excluded from de-rating if the primary purpose and use of the hereditament is a non-factory purpose, but not unless this can be proved. (5) In determining the primary purpose the immediate and not the ulterior purpose is to be considered. It is not enough that a product made on the hereditament is to be sold or used for a non-factory purpose off the hereditament.

BUILDING WAGES

THE following statement was issued jointly at the close of the National Joint Council meeting considering the preparation of a new National Agreement on March 26:—The National Joint Council met to-day and considered reports from the Executives of the affiliated parties relative to the proposals which have emerged from the recent negotiations. It then appeared that the Employers' Executives had agreed to accept the proposals, but that the Operatives' Executives had felt unable to do so without having first referred them to a vote of their members. The Operatives therefore proposed that their notice of withdrawal should be suspended for a period to enable this to be done, and ultimately it was agreed to suspend the same for six months and to adjourn the annual meeting of the Council pending the further report of the Operatives as to the result of their proposed reference to their members, the adjournment not to exceed six months.

In an interview with a representative of *The Builder*, Mr. A. G. White (secretary of the N.F.B.T.E.) defined the position as follows:—The Joint Revision Committee (appointed by the executives of the Employers' and Operatives' Federations), as a result of its deliberations over the last few months, arrived at certain agreed resolutions. These were submitted to the National Federation of Building Trades' Employers on Wednesday, March 25, and agreed to provisionally. The recommendations were considered by the National Federation of Building Trades' Operatives on March 20, and again on March 25, but the Federation could not see their way to accepting the recommendations as a whole without the considered consent of the various bodies comprising the Federation.

As regards the substance of the proposals, it is sufficient to say that substantially the constitution and rules under which the parties have worked for the last ten years would have continued, but there were some alterations which it was decided would be beneficial for the good of the industry.

Mr. D. M. Hill, secretary of the Scottish National Building Trades Federation (Employers), is reported to have said:—"This decision does not affect the position in Scotland. It is the purpose of the employers in Scotland to bring the wages of building trade craftsmen in Scotland into line with the grade 'A' rate of 1s. 6½d. per hour, which it has been agreed to maintain in England, and adjust gradings throughout the rural districts with a suitable relation with that grade 'A' rate. Owing to the economic position in Scotland, the large amount of unemployment prevailing in the building industry, and the general depression in all trades, the Scottish employers thought that in the public interest it was necessary to have a lower rate in the hope that it would stimulate industry in general."

DRY ROT

AT a meeting held under the auspices of the Dorking, Leatherhead, Reigate and Redhill Association of Building Trades Employers, Mr. E. H. Boulton, M.C., M.A., of the Cambridge School of Forestry, gave a lecture to a gathering of Redhill builders and their employees on "The Causes and Prevention of Dry Rot."

The lecturer said although there were many types of fungi which produced dry rot, the chief was *merulius lacrymans*. This particular type floated about in the air, and its buoyancy was very great. It eventually fell on timber where the conditions were ideal for it, and dry rot immediately resulted. It developed into a series of threads which very often branched in various directions. The threads—*hyphæ*—spread and secreted themselves on the cell walls and became so numerous that they formed absolute sheets, spoken of as *mycelium*. He had seen them start in a church at the altar and spread throughout between the bricks and mortar up to the organ and gallery 30 ft. away. Once they had dry rot in a building they did not know where it was going to finish, and he advised them always to remember to take out too much rather than too little.

Referring to the Death Watch beetles, the lecturer said to destroy them they should spray the timber during the egg-laying season of April, May and June, and again in September, the flight period. The furniture beetle was of the same type, only very much smaller. The lyctus beetle was first recorded in this country in 1830, and had become very common. It was not possible to detect it in the timber until it had been there 18 months. It laid its eggs in the open grain, hatched out and the grub bored parallel to the grain. He recommended the following mixture to exterminate the Death Watch and furniture beetle:—91 per cent. ortho-de-chloro-benzene, 7 per cent. Castile soap, and 2 per cent. cedar-wood. This was useless for the lyctus beetle, heat being the best method to counteract that.

NEW BUILDINGS IN LONDON

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Beehive-place.—ADDITIONS.—Messrs. Higgs and Hill, Ltd., Crown Works, South Lambeth-road, S.W.8, are the builders for an additional story, Nos. 21-25. Messrs. W. H. Woodroffe and Son, 5, Bedford-row, W.C.1, are the architects.

Berwick-street.—SHOPS.—For the building upon a site abutting upon Broad-street, Berwick-street, Kemp's-court, and Hopkins-street, Messrs. Hillier, Parker, May and Rowden, of Maddox-street, W.1, have prepared plans on behalf of the Midland Shop Properties, Ltd. The builders are Messrs. E. A. Roome, 7, Urswick-road, E.9.

Brixton.—BUILDING.—The A.C.E. Machinery, Ltd., Porden-road, Brixton, S.W.2, are proposing to erect a new building in Porden-road. Nothing has been definitely settled yet.

Chelsea.—FLATS.—Mr. Victor Wilkins, F.R.I.B.A., of 12, York-buildings, Adelphi, W.C.2, is the architect, and Messrs. Higgs and Hill, Ltd., of South Lambeth-road, S.W.8, are the builders for flats now being erected at Manor-street estate, for the Peabody Trust.

Croydon.—ADDITIONS.—Plans have been approved by Messrs. Hall-Jones & Dewhirst, Parliament-mansions, Victoria-street, S.W.1, for alterations and additions to premises in High-street and Surrey-street.

Croydon.—GARAGE.—The C.B. are to build a central garage adjoining the electricity works, Factory-lane.

Croydon.—PREMISES.—Mr. J. Hill, architect, of 34, Gordon-square, W.C., has submitted plans to the C.B.C. for the erection of the "Crown" public-house in London-road.

Gray's Inn-road.—SHOPS.—New shops with offices over are to be erected at 181-189, Gray's Inn-road, W.C.1, for the Foundling Estates, Ltd. Mr. Brian L. Sutcliffe, A.R.I.B.A., 7, Duke-street, W.1, is the architect, and Messrs. C. P. Roberts & Co., Ltd., 31, High Holborn, W.C.1, are the builders.

Greenwich.—BATHS.—New vapour baths are to be erected at the public baths for the B.C.

Hackney.—SUB-STATION.—The B.C. are to erect an electricity sub-station in Urswick-road.

Islington.—PREMISES.—Application has been submitted to the L.C.C. by Mr. C. P. Duckering on behalf of Messrs. Alfred Brittain, Ltd., for premises on the site of 39-47, Wedmore-street, N.1.

Islington.—REBUILDING.—For the rebuilding of Hanover-street Council school, the L.C.C. has placed a contract with Mr. Albert Monk, Lower Edmonton, N.9. The tender price is £30,040.

Kingsway.—EXTENSIONS.—The L.C.C. has placed a contract with Messrs. H. King and Son (Peckham), Ltd., Commercial-road, S.E.5, at £2,500 10s., for extensions to the Sheffield-street Hospital, Kingsway, W.C.2.

Lee.—REBUILDING.—Messrs. Dubois, Ltd., are rebuilding their premises at the junction of High-road and Lewis-grove.

Lewisham.—BUILDING.—Messrs. Hawkins & Co., Norwood-road, S.W., are erecting additional post-mortem room and mortuary accommodation. The plans are by the Borough Surveyor.

Limehouse.—ADDITIONS.—Mr. S. A. S. Yeo, architect, 2, St. John-street, E.C.1, is preparing plans for additions to the "Freemasons' Arms" public-house, 96-98, Salmon-lane, E.

Peckham.—DEPOT.—A sum of £26,500 has been recommended by the L.C.C. for offices at the Peckham Rye stores depot.

Petty France.—OFFICES.—Messrs. Bovis (1928), Ltd., 41, Upper Berkeley-street, W.1, are the builders for new offices for the Tilbury Contracting and Dredging Co., at 63-65, Petty France. The architects are Messrs. Brian L. Sutcliffe, J. Seely & Paul Paget, 7, Duke-street, W.1.

Poplar.—ADDITIONS.—Messrs. W. Harper, Ltd., 174, Bow Common-lane, E.3, are the builders for additions to "Bromley Arms" public-house, 51, Fairfield-road, E.3.

Putney.—DAIRY.—Messrs. Henry Butcher & Co., 63, Chancery-lane, W.C.2, have prepared plans for a dairy building to be erected at Putney.

Raynes-Park.—PAVILION.—Messrs. Higgs and Hill, Ltd., South Lambeth-road, S.W., are erecting a sports pavilion at Cottenham Park-road. Messrs. George and T. S. Vickery, 50, Gresham-street, E.C.2, are the architects.

Wapping.—REBUILDING.—Messrs. Taylor, Walker & Co., Ltd., are rebuilding the "Turk's Head," Tench-street.

Westminster Bridge-road.—SUBWAY.—A scheme to cost about £11,500 is being proposed by the L.C.C. for the construction of a subway between Westminster Bridge-road, the County Hall and St. Thomas' Hospital.

Willesden.—BUILDING.—The U.D.C. are to erect a fire station and quarters at Stonebridge Park. The plans are by Mr. F. Wilkinson, engineer to the Council.

NEW CINEMAS

Alfreton.—Mr. Harry Clayton, of Messrs. Clayton and Rignall, 12, Corporation-street, Chesterfield, is architect for a new cinema in High-street, for Cinema Services, Ltd.

Bacup.—For the erection of "Kosy" Cinema, on Burnley-road, for Bacup and Rossendale Land and Building Company (Mr. H. Cropper, architect, 3, South-street), the contractors are Messrs. Henry Trickett, of Crawshawbooth.

Glasgow.—Schedules have been issued and returned for the Florida Cinema, King's Park. The architect is Mr. Hamilton Neil, F.R.I.B.A., 163, St. Vincent-street, Glasgow.

Northenden.—Mr. Harold Davies, 4, St. Mary's Parsonage, Manchester, is the architect for the erection of a new cinema on Palatine-road, Northenden, Manchester.

Stranraer.—The Stranraer Picture House, Ltd., has issued a prospectus asking for £14,000 to erect a 1,100-capacity cinema in Dalrymple-street, Stranraer. One of the directors is Mr. Mark Cowan, 14, Doune-terrace, Glasgow. The architects are Messrs. John M'Kissach & Son, 68, West Regent-street, Glasgow.

West End.—It is understood that Mr. J. A. Phillips, Pall Mall, S.W., has the prospect of erecting on an exceptionally prominent site in the heart of theatreland a super cinema to accommodate 4,000 to 5,000 persons. Negotiations are at present proceeding with American interests in regard to the matter, and are expected to reach a conclusion shortly.

Skilled Apprenticeship.

The twenty-fifth annual report of the Skilled Employment and Apprenticeship Association contains the information that during the early part of 1930 negotiations were continued with the Ministry of Labour to endeavour to draw up a working scheme of co-operation. The attempt failed, however, and the executive committee decided that it was best for the Association to expand on lines of its own. 617 boys and 494 girls were placed in various trades, 16 of the former in the building industry and 174 in the engineering and heavy metal trades. It is to be hoped that better trade conditions will enable this Association to carry on to even greater extent its valuable work.

TENDERS

(Too late for Classification.)

Beckenham.—830 lin. yds. unclimbable wrought iron fencing, 6 ft. and 6 ft. 6 in. high, with two pairs of double entrance gates and three single gates, for the U.D.C. Mr. H. Storr Best, surveyor, 36, High-street:—

*William Gratrix & Sons, Walkden	£669 1 6

Croydon.—Extension to Selhurst-well sub-station, for the C.B.:—

Grace & Marsh Ltd.	£482
G. Poulton & Sons	448
Truett & Steel, Ltd.	440
Maides Bros.	406
E. H. Smith	395
E. J. Saunders	361
*D. Waller	359

Ealing.—Alterations and additions at 150 and 152, Uxbridge-road, Ealing for Messrs. Shirley Brothers. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 7, Duke-street, Wigmore-street, W.1:—

G. E. Wallis & Sons, Ltd.	£2,292
Bovis, Ltd.	2,263
Harry Neal, Ltd.	2,229
C. P. Roberts & Co., Ltd.	2,160
G. N. Watts, Ltd.	2,145
W. J. Dickens	2,100
*Bridge & Co., Ltd.	1,997
Shopfitting—	
*H. Aves & Co.	1,125

Great Yarmouth.—Sub-station, for the Central Electricity Board:—

*F. R. Hipperson & Son, London, E.C.	

King's Lynn.—Sub-station, for the Central Electricity Board:—

*F. R. Hipperson & Son, London, E.C.	

Kingston-on-Thames.—Lending library extension, for the T.C.:—

*Limpus & Son.	
*Libraco, Ltd.	

Lewes.—Fittings for County Hall Extensions. Mr. E. A. Verger, L.R.I.B.A., architect:—

*Ringmer Building Works.	

London.—Alterations and redecorations to 4-7, Caroline-place, W.C.1, for the Dominion Students' Hall Trust. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 7, Duke-street, Wigmore-street, W.1:—

Norris & Son	£5,742
H. F. Ball, Ltd.	5,521
*G. E. Wallis & Sons, Ltd.	4,116

London.—Offices at 63/4/5, Petty France, S.W.1, for the Tilbury Contracting and Dredging Co. Messrs. Brian L. Sutcliffe, A.R.I.B.A., John Seely, A.R.I.B.A., and Paul Paget, architects, 7, Duke-street, Wigmore-street, W.1:—

Waring & Gillow	£19,880
John Mowlem & Co., Ltd.	18,709
Holland & Hannen and Cubitts, Ltd.	18,554
Trollope & Colls, Ltd.	17,734
James Carmichael, Ltd.	17,497
Higgs & Hill, Ltd.	17,340
F. G. Minter, Ltd.	17,300
§Bovis, Ltd.	17,176

London.—New shops with offices over at 181 to 189, Gray's Inn-road, W.C.1, for the Foundling Estates, Ltd. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 7, Duke-street, Wigmore-street, W.1:—

Y. J. Lovell & Son	£16,161
Walter Lawrence & Son	15,765
F. G. Minter (Decorations), Ltd.	15,723
Pell & Clayton	15,596
Bridge & Co.	15,339
Bovis, Ltd.	15,256
G. E. Wallis & Sons	14,941
§C. P. Roberts & Co., Ltd.	14,700

London.—Masonic Temple, for Northumberland Rooms, Ltd., Grand Buildings, Trafalgar-square, W.C.2. Mr. Brian L. Sutcliffe, A.R.I.B.A., architect, 7, Duke-street, Wigmore-street, W.1:—

Norris & Son	£1,492
Bovis, Ltd.	1,176
Hall & Dixon	1,064
*F. G. Minter (Decorations), Ltd.	1,045

London.—Provision of additional post-mortem room and mortuary accommodation for the Borough, for Lewisham B.C.:—

T. A. Quarry, Eltham	£3,640 0
Grange & Griffiths	2,500 0
Lamerton & Norris	2,197 0
Henry Kent (Builders), Ltd.	1,967 0
Andrew, Black & Son	1,903 0
Cole, Loasby & Co., Ltd.	1,875 0
Frank & Simons, Ltd.	1,726 0
Walker, Clinging & Co.	1,711 0
William Wills & Sons (Builders and Contractors), Ltd.	1,683 10
W. Bickerton	1,642 0
*Hawkins & Co., Norwood-road	1,425 0

(All of London.)

Mildenhall.—New regimental building at Beck-row, for the R.A.F.:—

*F. R. Hipperson & Son, London, E.C.	

Norwich.—New building at Bowthorpe estate, for Messrs. Stewart & Patterson:—

*F. R. Hipperson & Son, London, E.C.	

Walsall.—New frontage and showroom in Bridge-street, for the Corporation Gas Dept.:—

*A. Edmonds & Co., Ltd., Constitutional Hill, Birmingham.	

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1931.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Accrington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Aldershot	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Alfreton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Alnwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Altrincham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ashford (Kent)	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Ashington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ashton-under-Lyne	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Aylsham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Barnsley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Barnstaple	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barrow-in-Furness	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Barry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bath	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bedford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Berwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bexhill	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Birkenhead	1/8½	1/8½	1/8½	1/9½	1/8½	1/8½	1/8½	1/3½
Birmingham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bishop Auckland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackburn	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackpool	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bolton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bournemouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bradford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bradford-on-Avon	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0
Brentwood	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Brighton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bristol	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bromsgrove	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bromyard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Bungay	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Burnley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Burton-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bury St. Edmunds	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Buxton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Cardiff	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Carlisle	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Chester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chesterfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Chorley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cirencester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Clacton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Colchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Coventry	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cranbrook	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Crewe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cromer	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Darlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Deal	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Denbigh	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Derby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Devizes	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Dewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Doncaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Dorking	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Durham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Eastbourne	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
E.Glam.(Mon.Val.)	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ely	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Exeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Glossop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Gloucester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/1½
Godalming	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Goole	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Gosport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Grantham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gt. Yarmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Grimsby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Guildford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Halifax	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Harpenden	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Harrogate	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hartlepools	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hatfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hednesford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hereford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Herne Bay	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Huddersfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hull	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Hunstanton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Huntingdon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Isle of Wight	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Ipswich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Keighley	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Kettering	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kidderminster	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kings Lynn	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lancaster	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leamington Sp	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leeds	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leicester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leighton Buzzard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Littlehampton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Liverpool	1/8½	1/8½	1/8½	1/9½	1/8½	1/8½	1/8½	1/3½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
London—								
12 m. radius	1/8	1/8	1/8	1/8*	1/8	1/8	1/7	1/3
12-15 m. radius	1/7½	1/7½	1/7½	1/7½*	1/7½	1/7½	1/6½	1/2½
Loughborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lowestoft	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Luton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Macclesfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Manchester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Mansfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
MarketHarborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Matlock	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Melton Constable	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Melton Mowbray	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Merthyr Tydfil	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Middlesbrough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newcastle-on-Tyne	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newcastle-u-Lyme	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
New Forest	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newmarket	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newport, Mon.	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Northampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Norwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Nottingham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Nuneaton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Peterborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Plymouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Pontypridd	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Portsmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Preston	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Redditch	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Reigate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Retford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ripon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Rochdale	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Rugby	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Saffron Walden	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
St. Albans	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
St. Helens	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sawbridgeworth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Saxmundham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Scarborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Shrewsbury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sittingbourne	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
South Shields	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stockton-on-Tees	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stoke-on-Trent	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourbridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stowmarket	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Stratford-on-Avon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sunderland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Swaffham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Swansea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Tamworth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Thetford	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Torquay	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Totnes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Tunbridge Wells	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wakefield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Walsall	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Walsden	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warminster	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Warrington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Warwick	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wells (Norfolk)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Welwyn Gar. City	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
West Bromwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Weston-sup-Mare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weymouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Whitby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wigan	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Winchester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Windsor	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wisbech	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wolverhampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Woodbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Worcester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worksop	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worthing	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wrexham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wycombe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wymondham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
York	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st February, 1931, is 1/10½ per hour.

For Building Trade wages in Scotland, see page 646.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc. may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S. Engineer E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

APRIL 6.

Kintore.—Bungalow.—At Kintore, for ex-Provost Taylor. T. Scott Sutherland & Taylor, chartered architects and surveyors, 9, The Square, Huntly.

Llechryd.—Manse.—B. T. Davies, J.P., Trefere, Tremain, Cardigan

London.—Building.—Building brick graves and vaults, supplying York ledgers, taking down and replacing headstones, etc., which may be required at the borough cemeteries at Ladywell and Hither Green, for Lewisham B.C. John W. Shuter, T.C.

Ramsey.—Painting.—Exterior of 23 pairs of houses at The Avenue, for U.D.C. R. F. Serjeant, clerk.

APRIL 7.

Bedfingtonshire.—Conversion.—Of 2,360 privies to water closets, together with laying of sewers and Water Mains and other incidental works, for U.D.C. J. W. Pooley, E. and S.

Braintree.—Building.—Fire station for U.D.C. S.

Dublin.—Additions.—Additional room to labourer's cottage 464, situate at Tolka, Finglas Bridge, Co. Dublin, for Board of Public Health. F. P. Russell, E., 16, Westmoreland-st., Dublin.

Dublin.—Additions.—Additional room to labourer's cottage 86 at Baldoyle, for Board of Public Health. Francis P. Russell, E., 16, Westmoreland-st., Dublin.

Epping.—Enlargement.—Of Council school, for Essex C.C. County Architect, County Hall, Chelmsford. Dep. £2 2s.

Glasgow.—Jobbing Work and Materials.—For Corporation City Improvement Dept. D. Stenhouse, T.C.

Kingsclere.—Houses.—Four at Penwood, Highclere, and four houses at Headley, for R.D.C. W. A. Cooper, clerk. Dep. £1 1s.

Longford.—Houses.—20, for U.D.C. M. T. Lamb, clerk. Dep. £3 3s.

Maldon, Essex.—Additions to Grammar school, for Essex C.C. County Architect, County Hall, Chelmsford. Dep. £2 2s.

Mitford and Launditch.—Cottages.—Four Lyng; four, Mattishall; and four, East Tuddenham, for R.D.C. W. J. Barton, clerk. Dep. £1.

Portsmouth.—Aerodrome.—Works of demolition of ramparts, filling-in portion of adjacent moat at Hilsea, and clearing, levelling, land drainage and general preparation of approximately 25 acres of land for use as a landing ground for aeroplanes of all types and sizes, for T.C. City E. Dep. £3.

Richmond (Surrey).—Demolition.—Of 25 houses, including some shop property, in Kew-rd., for Surrey C.C. C.E., County Hall, Kingston-on-Thames. Dep. £2 2s.

St. Austell.—New County School.—For girls, for the Cornwall Education Committee. S. Pool, County Architect, County Hall, Truro. Dep. £3 3s.

Sunbury.—Fire-station.—Timber-framed asbestos-covered temporary fire-station in yard, Green-st., for U.D.C. H. F. Coales, E.

West Riding.—Holdings.—13 creosoted timber dutch barns, for C.C. County Land Agent, County Hall, Wakefield. Dep. £1.

APRIL 8.

Brighton.—Shops.—On the Whitehawk housing estate. Town Clerk, Town Hall. Dep. £2 2s.

Easington.—Repairs.—Also part internal renovation of offices, for Guardians. W. G. W. Noble, Guardians Committee Offices, Easington, County Durham.

Edinburgh.—Additions.—Alterations and additions to Hope-st. branch post office, for H.M.O.W., Edinburgh, architect, 122, George-st. Dep. £1 1s.

Glasgow.—Installation.—Of heating at Balmore (Parkhouse) School, Buckley-st., N., for E.C. D. Stenhouse, T.C. Dep £1 1s.

Glasgow.—Installation.—In connection with electric lighting at Rumford-st. re-housing scheme extension, for T.C. General Manager, Electricity Department, 4, West Regent-st., C.

Llandyssul.—Outbuildings.—At Maengwyn, for J. James. Rhys Jones, architect, Llandyssul.

Malmesbury.—Houses.—12 non-parlour type, on Sherston housing site, for R.D.C. J. C. Wade, E. and S. Dep. £3 3s.

Sherborne.—Cottages.—Six at Caundle Bishop, near Sherborne, for R.D.C. W. J. Gillingham, architect, Long-st. Dep. £2 2s.

Tredegar.—Housing.—20 non-parlour houses on Council's Ashvale housing site, for U.D.C. Wm. Lloyd Roach, S. Dep. £2.

APRIL 9.

Beeston.—Houses.—16 parlour and 74 non-parlour on Tennis-av. and Boundary-rd., Beeston Fields Farm estate, for U.D.C. A. Bush, S. Dep. £2 2s.

Blackpool.—Heating.—At head post office, for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Bootle.—Painting.—Cleaning and painting exterior wood and ironwork of town hall, municipal offices, public library, police buildings, weigh office and weights and measures office, for C.B. B.E.

Conway.—Building.—Nurses' duty room, bathroom and lavatory accommodation, and connecting corridor between board room and female block, for B.G. D. G. Jones, clerk to C.C. County Offices, Caernarvon.

Eastwood.—Houses.—48 non-parlour in South-st. and 5 non-parlour in Church-st., for U.D.C. A. G. Wheeler, S. Dep. £2 2s.

Great Yarmouth.—School.—At junction of Middleton-rd. and Church-lane, Gorleston, for 320 boys, for E.C. Olley & Haward, architects, Queen-st. Dep. £1.

Huddersfield.—Extensions.—To existing tenements and erection of shops on proposed new road behind Kirkgate, for Corporation. Borough Architect, 26, Ramsden-st.

Leyton, E.10.—Public Convenience.—Construction of, in Adelaide-rd. Town Clerk, Town Hall. Dep. £3.

Ongar.—Hospital.—Cottage Hospital at High Ongar, for Ongar and District Cottage Hospital War Memorial. Pertwee and Howard, architects, Chelmsford. Dep. £2 2s.

Ravensthorpe.—Headquarters.—Ambulance headquarters in Garden-st., for Ravensthorpe Division St. John Ambulance Brigade. Firth, Son and Blackburn, A.R.I.B.A., architects, 22, Wellington-rd., Dewsbury.

Woking.—New Drill Hall and Quarters.—The Chairman, Surrey Territorial Army Association, Burwood House, 16, Caxton-st., Westminster, S.W.1. Dep. £2 2s.

APRIL 10.

Alloa.—Houses.—156 houses at The Walk and Bowhouse housing scheme, for T.C. J. Melvin and Son, architects, Mar-st.

Eccleshill.—Room.—Head teacher's room at Lound Council school (Chapeltown), for West Riding E.C. A. Rayner, 151, Cross Hill, Eccleshill.

Glasgow.—Jobbing Work.—For Parks Dept. D. Stenhouse, T.C.

Hemel Hempsted. — Repairs. — At Isolation Hospital, Bennetts End, Hemel Hempsted, for the Hemel Hempsted Joint Hospital Board. P. W. Prevett, architect, Bovingdon.

Llandovery.—Renovations.—Also repairs to tabernacle, C.M. chapel. Fred Jones, Ironmonger, 29, High-st.

* **London, N.W.10.**—Public Convenience.—At Wesley Playing Fields, for the Acton T.C. Town Clerk. Municipal Offices, Acton, W.3. Dep. £1 1s.

Oxford.—Houses.—On Cutteslowe housing site. City Engineer, Town Hall. Dep. £5.

Stroud.—Houses.—Four further houses at Lower-rd., Higham, for R.D.C. D. P. Terry, Surveyor's Dept. Dep. £2 2s.

Witham.—Houses.—Six pairs of semi-detached, non-parlour type on Cocks Farm estate, for U.D.C. G. Ogden, S. Dep. £2 2s.

APRIL 11.

Antrim.—Rewiring.—Of electrical installation at farm premises of mental hospital for Mental Hospital Committee. F. D. Brown, 93, Ann-st., Belfast. Dep. £1 1s.

Eccleshill.—Additions.—Also alterations, to police station, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

Edinburgh.—Alterations.—Additions at Seafield Hospital, Seafield-rd., Leith, for T.C. E. J. MacRae, A.R.I.B.A., City Architect.

Edwinstowe.—Removal.—Also re-erection of war memorial, Edwinstowe, together with walling and other appurtenant works, for Notts C.C. J. Cracroft Haller, C.S., Nottingham. Dep. £2.

Kent.—Schools.—Junior and infant, at Crayford, Snodland and West Wickham. Director of Education, Springfield, Maidstone. Dep. £2 2s.

Malton.—Houses.—Two pump houses, in brick and concrete, at Amotherby, near Malton, for R.D.C. J. Hutton, consulting engineer, Cornelian, Filey-rd., Osgodby, near Scarborough. Dep. £1 1s.

Newark-on-Trent.—Demolition.—Of 73 and 75, Castle-gate, and 54 and 56, Lombard-st., for Notts C.C. J. Cracroft Haller, C.S., Nottingham. Dep. £2.

New Ferry.—Additions.—Alterations and additions at Chester-rd. Council school, for Chester C.C. F. Anstead Browne, F.R.I.B.A., County Architect, The Castle, Chester. Dep. £2 2s.

Staffordshire.—Erection and Improvements.—To 9 schools, for the Education Committee. Director of Education, County Education Offices, Stafford. Dep. £4 4s.

Stithians (Cornwall).—Renovation.—Of Stithians United Methodist Sunday schoolroom. L. H. Pascoe, New-rd., Stithians.

Truro.—Roof.—New roofing and other work to six cottages, known as Coventry Cottages, Flushing. A. J. Cornelius, F.R.I.B.A., architect, Truro.

APRIL 12.

Hoo.—Cottages.—29 pairs of cottages; construction of reinforced carriage-way and sewage outfall works, and supply and erection of fencing and gates, for R.D.C. W. J. Stimpson, Architect and Building Surveyor, Council Offices, Hoo, Rochester. Dep. £5 5s.

APRIL 13.

Chelmsford.—Bungalows.—Two pairs bungalows, Ford End, two pairs cottages, Danbury, and two pairs cottages, Stock, for R.D.C. T. T. Thomas, E. and S. Dep. £2 2s.

Hatfield.—Houses.—24 non-parlour type on site at Welham Green, North Mimms, for R.D.C.—J. R. Howarth, S., 16, St. Alban-rd., Hatfield. Dep. £2 2s.

Hessle.—Convenience.—Public sanitary convenience on south side of The Square, for U.D.C. H. Hobson, Building Inspector, Town Hall. Dep. £1.

Hull.—Fencing.—840 yds. of wood fencing along boundaries of Hedon-rd. to Great Field-lane, for T.C. H. Hamer, City, E.

Ilkeston.—Houses.—14, and for footpaths, drainage and fencing, for T.C. B.E. Dep. £2 2s.

Wednesbury.—Houses.—66 non-parlour type on Lloyd-st. site, for T.C. A. Booth, B.E., and S. Dep. £2 2s.

APRIL 14.

Co. Offaly.—Building.—Dwelling-house and out-office on lands of Ballyshane, for Irish Land Commission. M. Deegan, secretary, Upper Merrion-st., Dublin. Dep. £1.

* **Faversham.**—Houses.—Erection of 136 houses in various parishes, for the R.D.C. The Clerk, 19, West-st. Dep. £2.

Ireland.—Building.—National school at Adrigole, Co. Cork; alterations to Killarney post office, Co. Kerry; improvements to Edengorra National school, Co. Meath, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1 each.

Newbury.—Houses.—76 non-parlour on site abutting on north side of London-rd. and adjoining Newbury-Didcot Railway, for T.C. B.S.

Nottingham.—Sub-station.—In Haydn-rd., for T.C. T. Wallis Gordon, City E. and S. Dep. £2

Preston.—Houses.—342 houses, for C.B. W. Platt, B.E. and S., Birley-st. Dep. £2.

Wallasey.—Public Convenience, etc.—At Harrison-drive, for the Corporation. Wilson Kenyon, Town Hall. Dep. £2 2s.

APRIL 15.

* **Epsom.**—Additions, etc.—To existing conveniences, etc., at Rosebery Park, for the U.D.C. Clerk, 49, Church-st. Dep £2 2s.

Gravesend. — Houses. — Erection of, on the Denton estate, for the Corporation. Town Clerk, 4, Woodville-ter. Dep. £2 2s.

* **Leigh (Lancs).**—Houses.—Chairman, Housing Committee, Town Hall. Dep. £2 2s.

Lunesdale.—Houses.—16 in village of Caton, for R.D.C. E. Ellis, Building Surveyor. Dep. £1.

North Berwick.—Houses.—Six blocks of three apartment houses, two blocks of four-apartment houses, and two blocks of two-apartment houses at Lochbridge, for T.C. A. Robertson, B.S.

North Bromsgrove.—Painting.—External and decorating of 68 council houses at Catshill and Rubery, for U.D.C. A. G. French, Surveyor's Offices, Woodrow-lane, Catshill. Dep. £1 1s.

Sheffield.—Schools.—Secondary schools at High Storrs, for T.C. W. G. Davies, F.R.I.B.A., City Architect. Dep. £2.

Stoke-on-Trent.—Repairs.—To houses in Hanley and Burslem, for T.C. E. B. Sharpley, T.C.

APRIL 17.

Macclesfield and Hartshead.—Site Works, etc.—For Central Electricity Board. Secretary, Trafalgar-bldgs., 1, Charing Cross, W.C.2. Dep. £2 2s.

Welwyn Garden City.—School.—At Salisbury-rd., for Herts C.C. A. Ernest Prescott, County Surveyor's Office, Hatfield. Dep. £2 2s.

APRIL 18.

Barrow-in-Furness. — Secondary School. — For Girls, at Risedale Valley Town Clerk, Town Hall.

Cottingley.—School.—New junior and infants' school, for West Riding E.C. Education officer, County Hall, Wakefield.

Eccleshill.—Building.—Woodwork, metalwork and science rooms at High Green Boys' Council School, for West Riding C.C. Education officer, County Hall, Wakefield.

Featherstone.—Building.—Special subjects rooms at North Featherstone Council School, for West Riding E.C. Education officer, County Hall, Wakefield.

Horsham.—Fencing.—Paving with reinforced concrete new car park at Bishopric, together with walls and fences, for U.D.C. C. G. Atkinson, S., North-st. Dep. £2 2s.

London, E.C.1.—Extension of Loading Platform.—At Mount Pleasant P.O., for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

APRIL 20.

Lee-on-the-Solent. — Telephone Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Liverpool.—Extension. — Of Sheil-rd. Council School, for E.C. Briggs and Thorneley, architects, Royal Liver Buildings, Pierhead, Liverpool. Dep. £2 2s.

Nottingham.—House.—In Edward's-lane, for T.C. Wallis Gordon, City E. and S. Dep. £2.

Southampton.—Additions.—Also alterations, to Clock House, 390, Shirley-rd., in converting same into police station, for C.B. B.E., 33-35, French-st. Dep. £2 2s.

Twickenham.—Showrooms and Offices.—For the London and Home Counties Joint Electricity Authority. Leslie Gordon, 5, Millbank, Westminster, S.W.1. Dep. £2 2s.

***York.**—Houses.—Erection of, on the Heworth Grange Estate. City Engineer, Guildhall. Dep. £2 2s.

APRIL 21.

Egypt.—Installation.—Electric lighting installation for Municipalities and Local Commissions Section of the Ministry of Interior. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 10804).

Horsforth, Leeds. — Telephone Exchange.—For H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

APRIL 22.

Barnsley.—Rebuilding.—Of "Neptune Hotel," New-st., for Clarkson's Old Brewery (Barnsley), Ltd. Dyson, Cawthorne & Coles, architects and surveyors, 10, Regent-st.

Bolton.—Houses.—Eight shops in two blocks and six houses in three blocks, Hall-i'-th'-Wood, for C.B. Housing Director, Westminster Bank-chams., Old Hall-st. North. Dep. £2 2s.

Minshead. — Telephone Exchange. — For H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

APRIL 23.

Birmingham.—Extension.—Goods shed at Tyseley, near Birmingham, for G.W.R. Engineer, Paddington Station, W.2. Dep. £2 2s.

APRIL 25.

***Epsom.**—New Municipal Buildings.—For the U.D.C. Clerk, 49, Church.-st. Dep. £3 3s.

Long Eaton.—Houses.—68 non-parlour type, for U.D.C. H. Raven, architect, Town Hall. Dep. £5 5s.

APRIL 27.

Hemel Hempstead.—Houses.—Erection of 30 houses in Seaton-rd., for the Corporation. Alfred E. Usher, Town Clerk, Town Hall. Dep. £7 7s.

Skipton.—Houses.—156 on Council's Short Bank-rd. housing site, for U.D.C. A. E. W. Aldridge, E. and S.

***Willesden.**—Sub-Fire-station and Quarters.—Clerk, Town Hall, Dyne-rd., Kilburn, N.W.6. Dep. £2 2s.

APRIL 28.

***Greenwich, S.E.10.**—Vapour Baths, etc.—At the Public Baths. Town Clerk, Town Hall, Greenwich-rd. Dep. £1 1s.

MAY 2.

Aswan.—Lighting.—Electric light installation for town of Aswan for Minister of the Interior. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 10802.)

MAY 4.

Bogota.—Roof.—Steel truss roof for the foundry works of the Pacific Railway, for Ministry of Public Works. Department of Overseas Trade, 35, Old Queen-st., S.W.1 (Ref. G.X. 10168).

NO DATE.

Ardsley.—Installation.—Of electric lighting at Ardsley (E. and W.) East Ardsley boys' Council school, for West Riding E.C. Percy Beaumont, Divisional Clerk, Education Offices, 8, St. John's North, Wakefield.

Ballymena.—School.—Public elementary school at Harryville, for Regional E.C. M'Carthy & Lilburn, chartered surveyors, Scottish Provident-buildings, Belfast. Dep. £1 1s.

Bo'ness.—Houses.—44 at Deansfield, for T.C. Wm. Beattie, Director of Housing.

Bury.—Painting.—Two rows of houses, 37-65, Oswald-st., 2-34, Hector-av. T. Barraclough, 19, Stanley-st.

Cardiff.—Painting.—Also decorating at Cathays Conservative Club, Cardiff. Secretary.

Cardiff.—Extensions.—To Dominions House, Queen-st. Henry Rudgen & Co., architects, 95, St. Mary-st Dep. £2 2s.

***Doncaster.**—Extensions.—To Technical College The Secretary, Education Offices. Dep. £2 2s.

Dundee.—Demolition.—Of Town House annexe, for T.C. D. B. M'Lay, City E., 91, Commercial-st.

Dundee.—Offices.—For T.C. David B. M'Lay, City E., 91, Commercial-st.

Gretton.—Cottages.—For R.D.C. G. Dolphin, S., Uppingham. Dep. £1 1s.

Irlam.—School.—Erection of Irlam Cadishead senior Council school, for Lancashire E.C. Stephen Wilkinson, F.R.I.B.A., 16, Ribblesdale-pl., Preston. Dep. £2.

Salford.—Shelter.—On south-west side of Victoria Bridge-st, for T.C. General Manager, Transport Offices, Frederick-rd.

Shalford.—Extension.—Levelling and laying out cemetery extension, construction of paths, surface water drainage and the erection of boundary walls, for P.C. H. T. Chalcraft, chartered surveyor, 35, New Broad-st., E.C.2. Dep. £2 2s.

Sowerby Bridge.—Painting.—Outside of Steep-lane Baptist Chapel, Sowerby, manse, cottages, etc. J. A. Haigh, 3, Orion-pl., Sowerby Bridge.

Thetford.—Additions.—To grammar school for girls, for Governors. S. J. Wearing, F.R.I.B.A., 3, Redwell-st., Norwich. Dep. £1.

Walney.—Extensions.—To shops, Plymouth-st., for Barrow Co-operative Society. J. Atkinson, architect and surveyor, 11, Market-st., Dalton.

MATERIALS, etc.

APRIL 6.

Anglesey.—Road Materials.—For C.C. M. Spencer Rogers, C.S., Llangefni.

Malden.—Road Materials.—For T.C. B.E.

APRIL 7.

Aberdeen.—Pipes, etc.—For C.C. County Road Surveyor, County Buildings, Aberdeen.

Glasgow.—Builder's Materials.—For Cleansing Dept. Director of Cleansing, 20, Trongate.

Glasgow. — Lime, etc. — For Sewage Dept. Manager, 50, John-st.

Kenilworth.—Road Materials.—For U.D.C.—S Douglas, E. and S.

Oldham.—Pipes, etc.—For Corporation. E. Parry, Commercial Manager, Gasworks, Greaves-st.

APRIL 8.

Ashford.—Highway Materials.—For U.D.C. S., 5, North-st.

India.—Paint, etc.—For Director-General, India Store Department, Belvedere-rd., Lambeth, S.E.1. Secretary.

India.—Portland Cement.—For Director-General, India Store Department. Secretary, Belvedere-rd., Lambeth, S.E.1

Minehead.—Limestone, etc.—A. Douglas Barron, E. and S.

Surrey.—Gravel, etc.—For C.C. H. Beeney, County Divisional Surveyor, West Byfleet.

APRIL 9.

Salford.—Lead Pipes, etc.—For T.C. City Electrical Engineer, Electricity Dept., Frederick-rd.

APRIL 10.

Glasgow.—Builder's Materials, etc.—For Gas Dept. General Manager, 30, John-st.

Stirling. — Bituminous Materials. — For C.C. County Road Surveyor, 41, Port-st., Stirling.

Swanscombe.—Road Materials.—For U.D.C. L. E Croucher, S.

APRIL 11.

Chelmsford.—Granite, etc.—For T.C E. J Miles B.E. and S

Dunstable.—Highway Materials.—For T.C. W. F. Wilkins, B.S.

Formby.—Bitumen Emulsion.—For U D.C E. Kendrick Gollan, E. and S.

APRIL 13.

Bexhill.—Limestone, etc.—For T.C. B.S.

APRIL 14.

Barnes.—Crushed Ballast.—For U.D.C. F. P. Kindell, E. and S.

Epping.—Road Materials.—For U.D.C. E. Stockdale, S.

APRIL 17.

Newbury.—Fencing Materials.—For T.C. S Widdicombe, T.C.

ENGINEERING, IRON AND STEEL.

APRIL 7.

Conway.—Mains.—Excavating and re-filling pipe trenches, providing, hauling, laying and jointing about 1,650 lin. yds. of cast-iron S. and F. water pipes 18 in. internal dia., from Dolgarrog to Maenan, together with sluice valves, air valves, washouts, expansion joints and fittings, concrete and brick culverts under railways, concrete and pile foundations to bridge approachways, and other works., for Conway and Colwyn Bay Joint Water Supply Board. Chas. F. Farrington, E., Trinity-sq., Llandudno. Dep. £5 5s.

East and West Molesey.—Drainage.—Foul water sewer in West Molesey, comprising approximately 2,900 yds. of cast-iron and stoneware pipes, together with necessary manholes and incidental works, for U.D.C. S. Dep. £2 2s.

East Lothian.—Valves.—Valves, meters, recorders and miscellaneous ironwork, required in the construction of Hopes reservoir, for Western District Water Board. G. H. Hill and Sons (Manchester), 40, Kennedy-st., Manchester. Dep. £2 2s.

Inverness.—Widening.—Of Drumnadrochit bridge in reinforced concrete and masonry, for C.C. Supervising Engineer, Station-sq., Inverness. Dep. £3 3s.

Oldham.—Reconstruction.—Of Higginshaw gas works, for C.B. E. Parry, Commercial Manager, Gas Works, Greaves-st

Stewartry of Kirkcudbright.—Drainage.—Mile of sewers, chiefly 6 in. in dia., with tank, filter, etc., for C.C. G. Thomson & Son, chartered civil engineers, 164, Bath-st., Glasgow. Dep. £2 2s.

APRIL 8.

Acton.—Widening.—Of storm water delivery channel in reinforced concrete, and incidental works, at sewage pumping station, Warple-way, Acton, W.3, for T.C. W G. Cross, B.E. Dep. £2 2s.

Cowes.—Stage.—Landing stage off Victoria-parade, for U.D.C. J. W. Webster, E. and S.

Llanybyther.—Water Supply.—Supplying, laying and jointing of cast-iron, bituminoi lined steel and asbestos cement pipes, with valves and other specials, together with service reservoir, break pressure tank, collecting chambers and various other contingent works, for R.D.C. J. Owen Parry, E., Arcade-chams, Ammanford. Dep. £3 3s.

Nottingham.—69 tons of existing steel troughing and cast-iron work taking down and about 90 tons of new steelwork in compound girders, floor ties, etc., required in the reconstruction of bridge over L.M. and S. Rly., Derby-rd., for T.C. T. Wallis Gordon, City E. and S. Dep. £2.

Nottingham.—Reconstruction.—Reconstruction of bridge over L.M.S. Rly. over Derby-rd. T. Wallis Gordon, City E. and S. Dep. £2.

Oban.—Repairs.—At lighthouse pier, for Commissioners of Northern Lighthouses. D. A. Stevenson, Engineer to Board, 84, George-st., Edinburgh. Dep. £2 2s.

APRIL 9.

Kerry.—Reconstruction.—In reinforced concrete of Duagh-Kilmorna bridge, for C.C. W. F. Quinlan, secretary. Roads Department, Thomas Ashe, Memorial Hall, Tralee.

Southend-on-Sea.—Bridge.—Small span concrete and steel bridge over Prittle Brook at Highfield-cres., and incidental works, for C.B. R. H. Dyer, B.E. and S. Dep. £1.

APRIL 10.

Ardrossan.—Water Supply.—Supplying and laying about 1,970 lin. yds. of 4-in. dia. and about 1,425 lin. yds. of 6-in. dia. cast-iron pipes and executing incidental works, including the taking out of existing 3-in. and other mains, for T.C. T. Kinnear Cook, R. Wood, joint town clerks. Dep. £1 1s

Market Bosworth.—Drainage.—Laying of about 60 yds. of stoneware pipe sewer, 9-in. dia. and construction of sewage outfall works in parish of Ratby, for R.D.C. Pick, Everard, Keay & Gimson, engineers, 6, Millstone-lane, Leicester. Dep. £2 2s.

APRIL 11.

Eccles.—Extensions.—Sewage disposal works extensions, for T.C. B.E. and S. Dep. £3 3s.

Epperstone.—Bridge.—In reinforced concrete over Dover Beck, in connection with proposed by-pass road at Epperstone, on Lowdham-Oxton-rd., for Notts C.C. C.S., Shire Hall, Nottingham. Dep. £2.

Lancashire.—Culvert.—Construction of Wheatley-lane culvert and scraping, cleaning and painting of certain steel bridges and fencing within administrative county, for C.C. County Surveyor and Bridgemaster, County Offices, Preston.

Nottinghamshire. — Bridges. — Bridge in reinforced concrete over River Rytob, near Bawtry; widening Eaton Hall culvert; widening King's Bridge, Rempstone, at Leicestershire and Nottinghamshire County Boundary; widening Red Bridge on Nottingham-Bawtry rd., near Ollerton; widening West Bridge, Normanton, near Ollerton; widening Polser Bridge and Lamcote Bridge, for C.C. J. Cracroft Haller, C.S., Shire Hall Nottingham. Dep. £2 2s. each

APRIL 13.

South Africa.—Steelwork.—Structural steelwork and galvanised and asbestos corrugated sheeting for the engine shed and umbrella roofs, required at Bloemfontein, for South African Railways and Harbours Administration. Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. G.X. 10164.)

APRIL 14.

Braintree.—Drains.—Sectional drains, house connections, construction of manholes, inspection chambers and other appurtenant works in the parishes of Bocking, Great Coggeshall and Kelvedon, for R.D.C. E. O. Wheeler, District Surveyor, St. Peter's-close, Bocking. Dep. £1 1s.

Nottingham.—Reconstruction.—Of bridge carrying Babbington Coal Co.'s mineral railway, for T.C. T. Wallis Gordon, City E. and S. Dep. £2.

Nottingham.—Steelwork, etc.—For reconstruction of bridge carrying Babbington Coal Co.'s mineral railway, for T.C. T. Wallis Gordon, City E. and S. Dep. £2.

APRIL 16.

West Riding.—Tank.—Making of new back drive and construction of sewage straining tank at Wadsley Mental Hospital, near Sheffield, for Mental Hospital Board. W. F. H. Burton, architect and engineer. West Riding Mental Hospitals Board Offices, Wakefield.

ROAD, SEWERAGE, AND WATER WORKS.

APRIL 6.

Aberdeen.—Sewer at lands of Pitmuxton and extension of sewers at lands of Stocket, for T.C. Thos. F. Henderson, City Engineer and Water Engineer. Dep. £2 2s.

Ballater.—Pipes.—Supplying and laying about 474 yds. of 7-in. dia. and 277 yds. of 3-in. dia. C.I. pipes with valves, specials, etc., complete; also reinforced concrete sand filters and relative works, for T.C. Jenkins & Marr, civil engineers, 16, Bridge-st., Aberdeen.

Slough.—Making-up.—Of Baylis-rd., for U.D.C. A. Bromly, E.

APRIL 7.

Bognor Regis.—Road Dressing.—For U.D.C. J. Draper, S.

Carlow.—Road.—Reconstruction in reinforced concrete of carriageway between College-st. in Carlow and level crossing to sugar factory, for C.C. R. J. Keogh, secretary. Dep. £1.

Chingford.—Making-up.—Of Burnham-rd., for U.D.C. S. J. Hellier, E. and S. Dep. £2 2s.

Dublin.—Improvements.—To various roads, for C.C. P. Murphy, County Secretary, 11, Parnell-sq., Dublin.

East and West Molesey.—Drainage.—Foul water sewer in West Molesey, comprising 2,900 yds. of cast-iron and stoneware pipes, together with necessary manholes and incidental works, for U.D.C. S. Dep £2 2s.

Hayes and Harlington.—Reconstruction.—Also widening of Botwell-lane, together with surface-water drainage, etc., for U.D.C. G. H. Connor, E. and S. Dep. £10 10s.

Inverness.—Reconstruction.—Construction, reconstruction and surfacing, Glasgow—Inverness rd., from Achnahannet to Brachla, for C.C. Supervising Engineer, Station-sq., Inverness. Dep. £3 3s.

Manchester.—Paving.—Draining, paving (concrete), flagging (artificial flags), etc., Abbotsford-rd., Withington; Bryan-rd., Withington; Buckingham-rd., Withington (from the southerly side of Clarendon-rd. West to a point 258½ yds. distant in southerly direction), for T.C. F. E. Warbreck Howell, T.C. Dep. £1 1s.

New Sarum. — Road. — Salisbury-Amesbury-rd. diversion at Old Sarum for T.C. City E. Dep. £2 2s.

Stockton-on-Tees.—Resewering.—3,110 lin. yds. of pipes and tubes, for resewering for Lustrum Beck area of Hartburn, for T.C. J. P. Wakeford, B.E. Victoria-buildings.

Sunderland.—Sewer.—Reconstruction of Hendon Burn sewer, from Barley Mow Field to Outfall, for C.B. B.E. Dep. £5 5s.

APRIL 8.

Coulsdon and Purley.—Making-up.—Of The Vale, Coulsdon, for U.D.C. G. A. Ballard, S. Dep. £1 1s.

Formby.—Road.—Road and sewer works in Rimmers-av., for U.D.C. E. Kendrick Gollan, E. and S.

Rochdale.—Paving.—Of portions of Finsbury-st. and Westminster-st., for C.B. B.S

Welwyn Garden City.—Spraying.—With hot bituminous dressing about 90,000 super. yds. of road surface, for U.D.C. Capt. W. E. James, E. and S.

APRIL 9.

Beeston.—Paving.—Sewering, paving, kerbing, metalling, lighting Dennis-av. (part), Boundary-rd. (part) and Brook-rd. (part), on Beeston Fields Farm estate, for U.D.C. E. A. Bush, S. Dep. £2 2s.

Bridlington.—Sewer.—New concrete road, No. 2, and sewer, on Priory Butt Hill estate, E. Vincent-King, architect and civil engineer, 30, S. James-rd.

Brighton.—Drainage.—9-in., 12-in., 15-in. and 18-in. stoneware foul water sewers, 39-in. and 54-in. concrete surface water sewers at Patcham, together with 9-in., 12-in., 18-in. and 21-in., 24-in. and 27-in. concrete surface water sewers and 24-in. cast-iron outfall at Kemp Town, for C.B. B.E. Dep. £3 3s.

East Riding.—Road.—Approach roads to Loftsome Bridge, Hull-Selby-rd., for C.C. C.S., County Hall, Beverley. Dep. £5.

Leeds.—Paving.—Kerbing, flagging, and tar paving footpaths and carriageways in bk. Hanover-view, Parkland-cres., Parkfield Mount (pt.); Scott Hall-cres., Clipston-st., Winthorpe-st.; Clipston Mount, Clipston-av.; also kerbing, flagging, paving, etc., portions of highway in various streets, for T.C. E. W. Cockerlyne, Highways Engineer, 155, Kirkstall-rd. Dep. £1 1s.

Macclesfield.—Mains.—Laying of about 3,200 yds. of 6-in. cast-iron water mains along highway between Alderley Edge and Prestbury, with hydrants, sluice valves and other fittings, for R.D.C. J. Thorpe, 19, King Edward-st. Dep. £1.

Newquay. — Making-up. — Of Pentire-av., for U.D.C. C. W. Walters, E. and S. Dep. £3 3s.

Nottingham.—Drainage.—234 yds. of 8 ft. 6 in. dia. brick and concrete sewer in Alfreton-rd., Bobbers Mill, together with other appurtenant works, for T.C. T. Wallis Gordon, City E. and S. Dep. £5 5s.

Southend-on-Sea.—Making-up.—Of Dynevor-gardens, Manchester-drive, section 2, and Westbourne-grove, section 6, for C.B. R. H. Dyer, B.E. and S. Dep. £1 each.

Twickenham. — Making-up.—Chudleigh-rd., Russell-rd. and Palmerston-rd., for T.C. G. R. King, B.E. and S. Dep. £2 2s.

Twickenham.—Drainage.—Surface water sewer with concrete tubes, for Whitton main drainage, for T.C. G. R. King, B.E. and S. Dep. £2 2s.

APRIL 10.

Chippenham.—Road.—Works in connection with new rd., 36 ft. wide, and a 9-in. sewer for about 300 yds., between Sheldon-rd. and The Woodlands, for T.C. A. E. Adams, B.E., High-st. Dep. £2 2s.

Coventry.—Making-up.—Of St. Paul's-rd., for T.C. E. H. Ford., M.Inst.C.E., City E. and S. Dep. £3 3s.

Devon.—Road.—Construction of Exeter City by-pass Road, for C.C. C.S., Mansion House, 18, Cathedral-yard, Exeter Dep. £5 5s.

London.—Sewer.—100 ft. of 5-ft. 8-in. by 3-ft. 6-in. brick sewer (mostly in tunnel) and re-inverting about 600 ft. of brick sewer, and contingent works beneath Whitefriars-st. and Carmelite-st., for Corporation. City E., Church Alley, Basinghall-st., E.C.2. Dep. £2 2s.

Southampton.—Road.—Construction for Titchfield by-pass, for C.C. W. J. Taylor, C.S., The Castle, Winchester. Dep. £5 5s.

Tilbury.—Reconstruction.—In reinforced concrete of Broadway, for U.D.C. S. A. Hill-Willis, E. and S. Dep. £5.

APRIL 11.

Brighouse.—Tarspraying.—On county main and corporation roads, for T.C. S. S. Haywood, B.E. and S.

Callander.—Pipes.—485 tons of 8-in., 7-in. and 6-in. dia. cast-iron pipes and special castings for Keltie supply, for T.C. J. M'Michael, T.C.

Callander.—Pipes.—140 tons of 8-in., 6-in., 4-in. and 3-in. dia. cast-iron pipes and special castings, for Keltie supply, for T.C. John M'Michael, T.C.

York.—Making-up.—Streets and back roads, for Corporation.—F. W. Spurr, City E. Dep. £2 2s.

APRIL 13.

Kingston-upon-Hull.—Road.—Tar macadam of 420 lin. yds. of road, together with necessary surface water drains, etc., Hedon-rd. to Great Field-lane, for T.C. H. Hamer, City E.

Wallasey.—Reconstruction.—In reinforced concrete of Warren-drive and part of Victoria-rd. from Grove-rd. to Rowson-st., for Corporation. B.E. and S.

APRIL 14.

Barnes.—Spraying.—Of roads with tar and cold bitumen emulsion, for U.D.C. F. P. Kindell, E. and S.

Birmingham.—Road.—Widening and reconstruction of Ridgeway, Erdington, from Gipsy-lane to College-rd., and reconstruction of footways in Sycamore-rd., Bournville, for T.C. H. H. Humphries, City E. and S. Dep. £2 each.

APRIL 16.

Enfield. — Making-up. — Of Goldsdown-rd., for U.D.C. H. R. Crabb, E. and S. Dep. £2 2s.

London.—Paving.—Providing and laying bituminous surfacing material and incidental works, Kensal-rd. (Council's depôt to Wedlake-st.); Walmer-rd. (Latimer-rd. to Bramley-rd); Clarendon-rd. (Elgin-cres. to Ladbroke-rd.); Chepstow-villas (throughout); Blenheim-cres. (Ladbroke-grove to Clarendon-rd.); Thurloe-pl. (by Thurloe-sq.), for Kensington B.C. B.E.

Public Appointments

APRIL 6.

Ruthin.—Senior Architectural Assistant required by Denbigh C.C. Clerk, County Offices.

APRIL 8.

***Shrewsbury.**—Architectural and Housing Assistant (Temporary).—Borough Surveyor, The Guildhall, Dogpole.

APRIL 13.

Wallasey.—Town Planning Assistant (Temporary).—B.E., Town Hall

APRIL 29.

***Greenwich, S.E.10.** — Storekeeper-Clerk.—Town Clerk, Town Hall.

JUNE 4.

London, W.1. — Assistant Examiners. — Forthcoming examinations. Assistant examiners in Patent Office. Secretary, Civil Service Commission, Burlington-gardens, London W.1.

NO DATE.

***Burton-on-Trent.**—Quantity Surveyor.—Director of Education, Education Offices, Guild-st.

Twenty-first Anniversary Dinner.

On Saturday evening last a dinner was held at Slater's Restaurant, Newgate-street, E.C.1, to celebrate the twenty-first year of the establishment of the firm of Artfloras. Mr. Alfred A. Woolfstein, who was in the chair, said that in spite of the present trade depression the whole of the regular staff were being fully employed. In order to attain a high standard of work the firm had been giving since 1929 a bonus to those employees whose work was carried out entirely to their clients' satisfaction, and also to the workmen who were obliging and civil on their jobs. Further to encourage and interest their employees in the firm, they had commenced an investment fund in 1930, on which an interest of 5 per cent. yearly was being paid. He was in favour of the apprenticeship system in the building industry, as it meant properly trained workmen for the future and a higher standard of craftsmanship generally. Mr. John Guaschi replied for the employees. Mr. A. Fox welcomed the visitors, and Mr. Tom Despirt replied. Mr. N. S. Graham acted as master of ceremonies.

PROPOSED NEW BUILDINGS AND OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.M.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Accrington.—T.C. recommend: £12,197 for improvements to Spring Hill school.

Addison.—Colliery Workmen's Institute to be rebuilt.

Alford.—Lindsey E.C. to build elementary school, at £26,250.

Alfreton.—Sanction received for 64 houses on Mansfield-rd. R. F. Ward, S.

Ashby.—Senior girls' council elementary school, at £25,640.

Ashton.—Council approved:—Four houses on Watson's estate, Warrington-rd., J. Watson.

Askern.—Doncaster R.D.C. propose 50 houses, to cost £21,874.

Aspull.—Vicarage to be erected by members of Church of St. Elizabeth, Vicar V. W. Clarkson.

Audenshaw.—Arthur Franks, builder, "Ferndown," Slate-lane, Audenshaw, proposed 106 houses on site between Manchester-rd. and Audenshaw-rd.

Aughton (Lancs).—C. Brighouse, Burscough-st., Ormskirk, and Long-lane, Aughton, plans factory in Dyers-lane.

Barnsley.—E.C. to erect senior school off Honeywell-lane. Architects, Dyson, Cawthorne & Coles, 10, Regent-st.

Batley.—Miners' welfare scheme, comprising institute, to be carried out, at £4,000.

Bedford.—R.D.C. received M.H. approval to tenders for 16 houses at Wilstead, 24 at Wootton, 8 at Colmworth, 6 at Odell, and 8 at Wilden.—Plans passed:—rebuilding "Plough" inn, Boinhurst, Paine & Co., Ltd.

Bellshill.—Extension and alterations to bakery of W. Austin & Co., Ltd., of Hamilton, Motherwell, Bellshill, and Coatbridge.

Belper.—T. Fenn, S., Council Offices, is to plan 40 houses on Whitemoor-lane for Belper U.D.C.

Birmingham.—Public Works and Town Planning Committee recommend: Transfer of land, part of Acocks Green recreation ground, from Parks Committee to Public Works and Town Planning Committee, for purpose of effecting improvement of Fox Hollies-rd. and Westley-rd., Acocks Green.—T.C. recommend: Overground convenience at corner of Stafford-rd. and Soho-rd. at cost £1,000.—Subject to approval of M.H., T.C. recommend proposed exchange of lands at Mill Pool Hill estate.—E.C. recommend: Subject to approval of B. of E. and M.H., proposed structural alterations at several elementary schools, and to borrow sum of £23,800 to cover cost.—Subject to B. of E., T.C. to transfer land from Estates Committee as sites for elementary schools, on Weoley Castle housing estate.—Finance Committee to borrow £4,911 for provision of temporary school accommodation on Cranbourne-rd. and Peckham-rd. school sites.

Blackpool.—J. H. Andrews & Butterworth, L.R.I.B.A., 9, St. James'-square, Manchester, plan large factory for biscuit works on Devonshire-rd.—T.C. to acquire property for extensions to Town Hall and to establish new shopping centre. B.S., Francis Wood.—E.C. to erect schools at South Shore and North Shore.

Blackpool.—Tenders to be invited for erection of "New Inn," Central Beach, Hounds Hill. Mather, Son & Wilding, Birley-st., architects.

Bolton.—Board of Management of Wilkinson's Sanatorium, Whitehill, Sharples, proposing additions. Plans by Bradshaw Gass & Hope, FF.R.I.B.A., 19, Silverwell-st.—Trustees of Bury-rd. Wesleyan Church, Breightmet, propose extensions to Sunday School buildings. Plans by R. Fearnhead, architect, 41, Mawdsley-st.

Bradford.—Plans approved for rebuilding "School Green" Hotel, Thornton, for J. Stocks & Co., Ltd., Shibden Head Brewery, Halifax.

Braintree.—U.D.C. approved plans for fire station in Drury-lane.

Brentwood.—London C.C. recommend £510 for sterilising room and bathroom, etc., at High Wood hospital for children.

Brigg.—County E.C. propose buildings at Girls' High School, at £18,000, and laboratory, at £760.

Bury.—J. Chadwick, B.E., plans 200 houses at Elton, for Corporation.

Bushbury.—The Holt Brewery Co., Ltd., Birmingham, propose new premises in High Croft, Old Fallings-lane, Bushbury.

Burton-on-Trent.—Birmingham & Midland Motor Omnibus Co., Ltd. (Midland Red) to erect omnibus garage for accommodation of 40 vehicles at Swadlincote.

* See also List of Contracts, Competitions, etc.

Callington.—U.D.C. to ask for tenders for concrete walls and wire fencing at backs of Council houses in Launceston-rd.

Cambuslang.—24 houses to be erected by Council at Castle Chimmans-rd. Architect, P. Smith, County-buildings, Hamilton.

Cambuslang.—For 4 acres of ground for extension of gas works. Lanarkshire Council is negotiating.—. Roden is Gas Engineer and Manager.

Castleford.—Site being acquired off Francis-st. for nursery school, by C.C.

Caterham and Warlingham.—U.D.C. approved:—4 cottages, Money-av., E. J. Brush; 25 cottages, Downsway, E. O'Sullivan (Kenley), Ltd.; shop premises, Croydon-rd., Wilsdon & King.

Chelmsford.—T.C. approved: extensions, offices Essex & Suffolk Equitable Insurance Society, Ltd., Duke-st.; house at Essex Home School, for Council of Home School.

Cleethorpes.—Lindsey E.C. to build senior council school at Parker-st., at £36,000, and to acquire site for junior school.

Darlington.—Darlington Rolling Mills Co., Ltd., propose mill and offices at Rise Carr for the manufacture of light steel sections.

Derby.—Building Committee received sanction to proceed with 150 houses at Sinfin.

Dewsbury.—Firth, Son & Blackburn, A.R.I.B.A., 22, Wellington-rd., architects for additions in Bradford-rd., for Battye & Fletcher branch of Stanley Press, Ltd.

Edmonton.—U.D.C. approved: Glover & Main, Ltd., addition to foundry and Gothic Works, Angel-rd.; W. Render, semi-detached houses, Exeter-rd.; G. G. Stanham, alterations and additions to "The Golden Fleece" p.h., Fore-st.

Eston.—U.D.C. instructed Housing Committee to reconsider proposal to build 340 houses at Grangetown.

Eton.—R.D.C. approved: Datchet, 5 houses, H. J. Hewlett; new bedroom and bathroom at Manor Hotel, B. H. Dovey.

Filey.—E. Clough Tasker, A.R.I.B.A., Harcourt-cham., St. Nicholas Cliff, Scarborough, architect for extensions to Ravine Hall Residential Hotel.

Fleetwood.—Francis Jones & H. A. Dalrymple, F.&A.R.I.B.A., 178, Oxford-rd., Manchester, architects for extensions and alterations to branch bank premises at Ash-street and Warrenhurst-rd., for District Bank, Ltd., 15, Spring-gardens, Manchester.

Glasgow.—Corporation to erect storage accommodation at £3,700 and an annexe at £5,000 at Kelvin Hall. Architect, T. Somers, C.E., City Surveyor. Measurer, Sam Muirhead, 154, West Regent-st., Glasgow.

Glasgow.—Demolition of two kilns and erection of new for J. Thomson & Sons (Glasgow), Ltd., 24 Sward-st., Bridgeton, at Gallowgate. Architects, A. V. Gardner (Gardner & Glen), 164, Bath-st.

Glasgow.—For Scotstoun area, new school to be erected for Catholic children at Yoker. Education Architect, William McCaig, 129, Bath-st.

Glasgow.—Plans coming before Dean of Guild Court for extension to school, Elmbank-st., for Glasgow Authority. Architects, Watson, Sale & Grey, 242, West George-st.

Glasgow.—School at King's-pk. Architect, N. MacWhannell, 233, West Regent-st.

Goole—At annual meeting of St. Mary's Church, Rev. H. E. Wall announced that Bishop of Sheffield had approved schemes for reconstruction of St. Mary's, at £3,000, erection of church hall, and also new parsonage.

Gourock.—Council to erect new slaughterhouse and mortuary. Architect, A. Duthie, B.E.S.

Grantham.—New church in Signal-rd., for three Methodist denominations.

Greengain.—Extension to Greengain Primary school. Architect, J. Stewart, Master of Works Office, Albert-st., Motherwell.

Hailsham.—R.D.C. to build 6 houses in Station-rd.

Harpenden.—In connection with housing scheme at South Harpenden, M.H. approved proposal of U.D.C. to increase number of houses to 74.—Plans passed:—4 houses, Fairmead-av., F. J. Dellar.

Hebburn-on-Tyne.—U.D.C. approved plans for transforming station near present power station for the C.E.B. Engineers, Merz & McLelland, Carliol House, Newcastle-on-Tyne.

Highley.—Miners' Welfare Committee to erect boys' club at £1,500.

Hinckley.—U.D.C. approved: extensions, factory, Factory-rd., Ridley, Spriggs and Johnson, Ltd., alterations, factory, Baptist-walk, G. W. Ferry & Co.; alterations, "Wharf Inn," Thomas Aucott (Hinckley), Ltd.

Hornchurch.—Plans passed by U.D.C.: 8 houses, Glebe-way, G. Wood; 7 houses, Sandown-av., C. J. Luck; 4 houses, Grey Towers-av., W. Grover; 10 houses, Wingletye-lane, A. Kind; 12 houses, Bruce av., C. L. Evans; 4 houses, Slewins-lane, W. Goodchild; 4 houses, The Avenue, A. & C. Lawford; 30 houses, Colchester-rd., J. E. Neal; 12 houses, Lewis-rd., Whiffin & Bulstrode; 4 houses, Hylandway, H. Huntley; 5 houses, Glebe-way, G. H. Mynott; 6 houses, Kinfauns-av., J. R. Woodroffe; 102 houses, Stafford-av., and 12 houses, Ashlyngrove, Newman, Eyres & Peterson; 4 houses, Ashlyn-grove, A. L. Sellwood; 10 houses, Beverley-gardens, W. J. Pallett; 9 houses, Fanshawe-cres., J. R. Woodroffe.

Huddersfield.—Corporation propose tenement dwellings on Denton-lane site, and Borough Architect been instructed to prepare lay-out plans of St. Andrew's-rd. and Hillhouse-lane sites for housing.

Ipswich.—Bishop of St. Edmondsbury and Ipswich received £1,000 from executors of late E. H. Woodmancy, of Nelholme, Felixstowe, towards erection of two new church halls on outskirts of Ipswich.

Kenilworth.—U.D.C. approved plans of lay-out of Long Meadow Wood estate and erection of 104 houses for C. H. Smith.

Keswick.—Mr. and Mrs. J. B. Wivell, "Keswick Hotel," have acquired Armthwaite Mote Hall to convert into an hotel at £15,000. Plans by J. Jennings, L.R.I.B.A., Church-st., Ambleside.

Kettering.—U.D.C. proposing nursery school on Avondale-rd. site.—Plans approved: P. Phipps & Co., Ltd., alterations, "Old White Horse" Hotel, High-st.; Kettering Industrial Co-operative Society, Ltd., alteration store, Newland-st.; Kettering Industrial Co-operative Society, Ltd., additions to bakery, King-st.

Lancaster.—T.C. to build new central school, at £21,000, at Skerton.

Leamington Spa.—C. M. C. Armstrong, F.R.I.B.A., 39, High-st., Warwick, is architect for new blocks at the General Hospital.

Leeds.—Chorley, Gribbon & Foggitt, architects, prepared plans for 270 houses at Selby-rd., and 250 houses at Dick-lane, Laisterdyke, near Bradford, for Sutton Dwellings Trust.

Liverpool.—C. E. Deacon, architects, 12, St. George's-crescent, prepared plans for alterations to St. Chad's Church.

London (Bermondsey).—B.C. recommend application to L.C.C. for £16,929 for 24 flats on Elgar-st. site; £13,000 for land at Balaclava-rd. and Fort-rd.; £26,255 for 44 flats, St. Paul's-lane and Beatson-st., Rotherhithe.—£260 to be spent on St. James' and Old Bermondsey churchyards for improvements.

London (Chelsea).—L.C.C. granted B.C. permission to borrow £7,300 for World's End-passage housing scheme.

London (Hammersmith).—B.C. received M.H. sanction to proposal to proceed with 22 flats fronting Waterloo-st.

London (Highgate).—L.C.C. recommend £217 for improvements to fire escapes at Archway hospital.

London (Lambeth).—B.C. approved: J. Hancock, one-storey shop, 110, Clapham-rd.; T. L. Rogers, two garages, rear 2, Bonham-rd., next Sudbourne-rd.; E. W. Wallis, one-storey addition, 2-8, Norwood-rd.

London (Lewisham).—L.C.C. recommend £25,000 in respect of an improvement of Ravensbourne and Lee-green sewer.

London (Putney).—L.C.C. to erect schoolkeeper's house at Huntingfield-rd. school.

London (Stepney).—B.C. recommend £3,864 for extensions of Whitechapel sub-station.

London (Woolwich).—L.C.C. sanctioned borrowing by B.C. of £74,757 for street widenings.

Louth.—Lindsey E.C. propose alterations to Old Boys' School, at £1,000.

Manchester.—Corporation propose 340 additional houses on the Ryderbrow estate, Gorton, by direct labour. Also immediate erection on the Wythenshawe estate, Northenden, of 1,000 houses. F. W. Platt, Housing Architect.

Manchester.—The Moston Brick and Building Co., Kenyon-lane, Moston, Manchester, propose 113 houses on site off Wilmslow-rd., Withington.

Mansfield.—Chesterfield Brewery Co., Ltd., Tapton-lane, Chesterfield, propose new hotel at Pickles-lane and Wood-lane, Church Warsop. Plans by Aubrey Lane, Son & White, Burton-chams., Leeming-st., Mansfield.

Margate.—T.C. approved plans by W. Pay for 40 houses, Gordon-rd., Westwood.

Meriden.—Housing Committee of R.D.C. reported that plans for 60 dwelling-houses been approved.

Montrose.—Asylums Board propose nurses' home at £30,000

Moxley.—South Staffordshire Joint Smallpox Hospital Board to erect pavilion, to accommodate 16 beds, at £5,500.

Nantwich.—Cheshire C.C. to erect welfare centre on land obtained at Nantwich. Plans by County Architect. F. Anstead Browne, F.R.I.B.A., Newgate-st., Chester.

Nantwich.—M.H. held inquiry into R.D.C.'s application for £138,000 for water scheme from a source at Bearstone, Shropshire, to supply 41 townships in district.

Newcastle.—Co-operative Society, Ltd., have secured a site at St. Anthony's for branch.

Newcastle.—Jesmond Towers is to be transformed into grammar school.

Newcastle-on-Tyne.—J. W. Fatkin, 77, Westgate-rd., plans new tempie in Stephenson-st. The contract is still to be let.

Newcastle-on-Tyne.—M.H. sanction to borrow £760,000 is sought in connection with the City Council's housing schemes.

Newcastle-on-Tyne.—T.C. considering proposal to convert North-East Coast Exhibition Palace of Arts into industrial museum.

Northampton.—F. H. Allen, A.R.I.B.A., 25, Abington-st., preparing plans for isolation block at Manfield Hospital at £2,500.

Northwood.—Council passed plans:—2 pairs of houses, Hawthorne-av., Rotherham Estates, Ltd.; 56 houses, roads and sewers, Deane-way, Rotherham Estates, Ltd.

Oldham.—Tenders invited for vicarage for Parochial Council of St. Ambrose Church, Water Sheddings. Plans by Diocesan Surveyor, R. Martin, L.R.I.B.A., 90, Deansgate, Manchester.

Oldham.—The E.C. to erect open-air school near sanatorium.

Penistone.—Road improvements on High Lee and Wellhouse-rd., which West Riding C.C. has agreed, now to commence. Cost about £180,000.

Peterborough.—A. W. Wilson, A.R.I.B.A., architect, Cumbergate, preparing plans for nurses' home.

Pontefract.—T.C. to erect an additional 100 houses. W. H. Newton, B.S.

Preston.—£40,000 to be expended on extending St. Mary's Hospital, Mount-st. Architect, W. C. Mangan, 18, Guildhall-st.

Raunds.—U.D.C. to build 12 more houses.

Richmond (Surrey).—T.C. approved:—S. Tatchell, new premises, 28, Kew-rd.

Royston (S. Yorks).—West Riding C.C. propose to construct the new lift bridge across the Barnsley canal.

St. Neots.—T. A. Scott prepared plans for 8 houses at Mimbolton, for R.D.C.

Seaford.—U.D.C. approved:—4 pairs houses, Vale-rd., W. H. & E. Hutchings; additional sanitary accommodation, Hilltop Court school.

Sheffield.—Elcock & Sutcliffe, FF.R.I.B.A., 60, Strand, W.C.2, plan ice-rink, for London and Provincial Ice-Rinks, Ltd.

Skegness.—County E.C. propose secondary school at £18,000. Plans by County Architect, H. Gamble, Lincoln.

Solihull.—R.D.C. approved:—Ulverley Castle estate, 41 houses, for Biddle & Homer; St. Bernard's-rd., 4 houses, for D. O'Donnell; Warwick-rd., 4 shops and houses, for H. R. Oldham; Solihull-lane, Shirley, new offices and works, for J. Wragg, Ltd.

Southam.—R.D.C. are to erect 24 houses on Banbury-rd. H. L. Welch, B.S.

Southampton.—T.C. approved recommendation of Housing Committee that B.E. submit plans for remaining 260 houses on Merry Oak housing estate.

South Elmsall.—West Riding E.C. to erect a new school at Harewood.

South Shields.—Comprehensive scheme for development of riverside, involving £1,044,000, been submitted by B.E. for consideration of Council.

Spenborough.—U.D.C. are to erect 50 houses on Firthcliffe estate, Scholes. Arthur Rothera, S., Cleckheaton.

Stirling.—Bridge across River Forth from Stirling to Cambusnethan at £8,000 by Council. Burgh Architect, A. H. Gowdie, Municipal-building.

Stockton.—T.C. decided to convert tramway sheds into omnibus depot at £8,889.

Stourport.—C. Martin, 106, Colmore-row, Birmingham, architect for laundry at Lucy Baldwin maternity hospital, for Worcestershire C.C.

Stourport.—Pritchard, Godwin & Clist, F. & A.R.I.B.A., architects, Bank-bldgs., Kidderminster, plan Masonic hall in Lichfield-st.

Thornton Cleveleys.—U.D.C. approved:—12 houses, Leicester-av., J. Wolstenholme; 4 houses and garages, West-drive, G. Walsh & Sons; sub-station and garage, Cambridge-rd., for Thornton Cleveleys Council and —. Halloway; 4 houses, Derby-rd., Wm. Storrs; 4 lock-up shops, Victoria-rd., executors of S. C. Howard.

Tiverton.—T.C. approved:—alterations to premises in Fore-st., Thorne Bros.

Walsall.—Scheme of alterations to Queen Mary's Grammar School been approved by Governors.

Walsingham.—R.D.C. considering housing at Fakenham.

Warrington.—Board of Management of the Infirmary and Dispensary (Sec., H. L. Boot) are proposing to make extensions providing for a further 100 beds. The appointment for architect has not yet been made.

West Coats.—Extension and reconstruction, etc., by Lanarkshire Council, at West Coats Higher Grade School. Architect, J. Stewart, Master of Works Office, Albert-st., Motherwell.

West Hartlepool.—C. F. Burton, F.R.I.B.A., Shipping-chams., George-st., plans new licensed premises at New Seaham, for J. Nimmo & Sons, Ltd., brewers, Newcastle-on-Tyne.

Whitwood.—Plans approved:—erection of 300 houses off Three Lane-ends.

Windhill.—Shipley U.D.C. to erect 100 houses. Plans by S.

Wolverhampton.—John Davenport & Sons Brewery, Ltd., Bath-row, Birmingham, propose new licensed premises in Dixon-st. Plans by Norman W. Twist, F.R.I.B.A., Sun-bldgs., Bennett's-hill, Birmingham.

ESTIMATING ON RIGHT LINES

Everyone whose business it is to quote for building work should master the principles upon which estimating is based. These principles are clearly explained and illustrated in.

'HOW TO ESTIMATE'

by J. T. REA,

an unique and invaluable work which is not excelled in thoroughness or in scope by any other book on the subject.

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B. T. BATSFORD, LTD.
Publishers, 94 High Holborn, London, W.C.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Fletons, at King's Cross	2 11 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 13 3	Bo. Bullnose	9 15 0
Do., Bullnose	3 5 3	Blue Wire Cuts	7 5 0

White Midhurst Facing Bricks (delivered London site) 5 0 0

Best Stourbridge Fire Brick:—

2½ in.	8 11 0	3 in.	10 3 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	2 3 10 0
		D'ble Headers	26 10 0
Headers	20 10 0	One Side and two Ends	30 10 0
Quoins, Bullnose and 4½ in. Splays, and Flats	27 10 0	Two Sides and one End	31 10 0
		Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.
Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. „ „	2 4	4 in. „	3 6

	s. d.	
Thames Ballast	8 0 per yd	delivered 2 miles radius Paddington
Pit Sand	11 0 „ „	
Thames Sand	11 0 „ „	
Best Washed Sand	11 6 „ „	
½ in. Shingle for Ferro-Concrete	8 6 „ „	
¼ in.	11 0 „ „	
⅜ in. Broken Brick	10 6 „ „	
Pan Breeze	8 0 „ „	

Per ton delivered in London area in full van loads.

Best Portland Cement, British Standard Specification. Test £2 6 0 to £2 8 0
30s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 7 6
Vitocrete „ „	0 7 6
Super Cement (Waterproof)	3 16 0
Ciment Fondu (F.O.R. Works)	4 15 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
„ „ Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
„ White	3 12 6
„ Fine	5 12 0
Sirapite, Coarse	3 9 0
„ Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK—Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.	
PORTLAND STONE—Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road wagons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
CHILMARK—RANDOM BLOCK—At Nine Elms, per ft. cube	3 11

	s. d.
HOPTON-WOOD STONE—F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P. ft. cb.	14 0
Sawn two sides „	22 6
Sawn three or four sides „	27 6
YORK STONE, BLUE—*Robin Hood Quality.* Delivered at any Goods Station, London 6 in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super	5 6
6 in. rubbed two sides, ditto „	6 0
3 in. sawn two sides slabs (random sizes) „	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) „	1 6½
1½ in. to 2 in. ditto, ditto „	1 3½
HARD YORK—Delivered at any Goods Station, London. Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto „	6 1½
4 in. sawn two sides slabs (random sizes) „	2 1½
3 in. ditto ditto „	2 10
2 in. self-faced random flags Per yd. super	8 0

CAST STONE

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£27 10	3 × 6	£20 0
4 × 9	26 0	3 × 11	22 0
4 × 8	25 0	2 × 11	23 0
4 × 7	23 0	3 × 9	22 0
3 × 8	20 0	2½ × 9	22 0
3 × 7	20 0	3 × 4½	20 0
2½ × 7	20 0	3 × 4	20 0

PLANED BOARDS.

1 × 11	£28 0	1 × 9	£26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	18/-	1¼	29/-
⅝	20/-	1½	33/-
1	23/-		

TONGUED AND GROOVED FLOORING

Inches.	per sq.	Inches.	per sq.
1	24/-	⅝	16/6
1¼	30/-	¾	19/-
1½	34/-	1	24/-

lins. BATTENS.	s. d	MATCHING (BEST).	
¾ × 2 per 100 ft.	2 6	SAWN LATHS. Per bundle	s. d. 2 0

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cubs	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	£4 10 0 to —
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 0 0	18 by 10	17 5 0
22 by 12	27 19 6	18 by 9	15 10 0
22 by 11	25 5 0	16 by 10	14 14 6
20 by 12	24 7 6	16 by 8	11 5 0
20 by 10	20 17 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000. f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	£5 2 6
ditto hand-made ditto	5 7 6
Ornamental ditto	5 12 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Machine-made	0 9 0

METALS.

	£ s. d.
JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—R.S. Joists, cut and fitted	£12 10 0
Plain Compound Girders	14 10 0
„ Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅞ in. to ¼ in.	10 15 0
⅜ in.	11 0 0	⅜ in. to 2⅞ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Tubes. Genuine Staffs. Iron.	Fittings. ⅛ in. and under.	Fittings. Over ⅛ in.	Flanges. ⅛ in. and under.	Flanges. Over ⅛ in.
	%	%	%	%	%	%
Gas	62½	50	45	47½	55	57½
Water	58⅜	46½	40	42½	50	52½
Steam	55	42½	35	37½	45	47½
Galv. gas	50	37½	35	37½	45	47½
Galv. water	45	32½	30	32½	40	42½
Galv. steam	40	27½	25	27½	35	37½

*C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7¾d.	2½d.
3½ in.	10½d.	8½d.	2½d.
4 in.	10¾d.	9½d.	2½d.
4½ in.	11¾d.	10¾d.	2¾d.
5 in.	1/1½	11¾d.	3½d.

*O.G. GUTTERS.

3 in.	1/0	10½d.	2½d.
3½ in.	1/0⅝	10½d.	2½d.
4 in.	1/1½	10¾d.	2½d.
4½ in.	1/2½	1/0½	2¾d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6 ft. Pipe.		Bends, stock Branches, angles, stock angles.	
2 in. plain	1/2¼	9½d.	1/2
2½ in. „	1/3	10⅝d.	1/4
3 in. „	1/6⅜	1/1½	1/8½
3½ in. „	1/11	1/4½	1/11½
4 in. „	2/2½	1/7¼	2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Bends, stock Branches. Pipe, angles, stock angles.			
	s. d.	s. d.	s. d.	
2 in. per yd. in 6 ft. plain	2 1½	1 6½	1 10½	
2½ in. „	2 6	1 8½	2 4	
3 in. „	2 8	1 10½	2 9½	
3½ in. „	2 10½	2 4	3 3	
4 in. „	3 3	2 7½	3 9	

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Bends, stock Branches, Pipe, angles, stock angles.		
	s. d.	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	3 6	4 3	6 8
4 in. „ cwt. qr. lbs.	1 1 20	4 9	5 2 9 1
5 in. „	1 2 22	6 3	9 0 14 3
6 in. „	2 0 6	6 11	10 11 18 1

Gaskin for jointing 41/- per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—Common bars	11 0 0	to	12 0 0
Staffordshire Crown Bars Good merchant quality	11 5 0	to	12 5 0
Staffordshire Market Bars	14 0 0	...	15 0 0
Mild Steel Bars	9 10 0	...	10 10 0
Steel Bars, Ferro-Concrete quality, basis price	9 0 0	...	10 0 0
Hoop iron, basis price	11 0 0	...	12 0 0
„ Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black—Ordinary sizes, to 20 g.	11 10 0	...	12 0 0
„ „ „ 24 g.	13 0 0	...	14 0 0
„ „ „ 26 g.	15 0 0	...	16 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	14 10 0	...	15 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	...	19 5 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—Ordinary sizes 6 ft. to 9 ft. to 20 g.	15 0 0	...	16 0 0
Ordinary sizes 6 ft. to 9 ft. to 22 g. and 24 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	18 10 0	...	19 10 0
Sheets Galvanised Flat, Best quality—Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	20 10 0	...	21 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	22 10 0	...	24 10 0
Best Soft Steel Sheets, 26 g.	24 0 0	...	25 0 0
Cut Nails, 3 in. to 6 in. (Under 3 in. usual trade extras.)	16 0 0	...	17 0 0

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up	22 0 0
Pipe in coils	22 10 0
Soil pipe	25 10 0
Compo pipe	26 10 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 5s. cwt. extra.

	£ s. d.
Old lead, ex London area, at Mills per ton	£12 0 0

COPPER.

	s. d
Seamless Copper tubes (basis) per lb.	1 3
Strong sheet „	1 0
Thin „	1 1
Copper nails „	1 7
Copper wire „	1 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1½ in.
35/-	56/-	98/-	162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/- 101/- per doz.
8 lbs. S. traps	35/-	45/-	66/- 126/- „

TIN.—English Ingots, 1/5 per lb. SOLDER.—Plumber's 8d., Tinmen's 10d., Blowpipe 11d. per lb.

PAINTS, &c

Raw Linseed Oil, in pipes per gallon			0 2 3
„ „ „	in barrels	„	0 2 5
„ „ „	in drums	„	0 2 8
Boiled „ „	in barrels	„	0 2 8
„ „ „	in drums	„	0 2 10
Turpentine in barrels		„	0 4 0
„	in drums (10 galls.)	„	0 4 2
Genuine Ground English White Lead, per ton			45 10 0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

*The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*cont.*)

PAINTS, &c.—(*cont.*)

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots	£	s.	d.
per ton delivered	63	10	0
Red Lead, Dry (packages extra) ..per ton	31	10	0
Best Linseed Oil Putty ..... per cwt.	0	13	6
Filicol ..... ,,	0	16	6
Size. XD quality ..... ftn.	0	3	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.	
15 oz. fourths..	2½d.	32 oz. fourths	6½d.
15 ,, thirds	3½d.	32 ,, thirds	9d.
21 ,, fourths	3½d.	Obscured Sheet, 15 oz. ..	3½d
21 ,, thirds ..	4d.	,, 21 oz.	4½d.
26 ,, fourths ..	4½d.	Fluted, 15 oz. 7d., 21 oz.	9½d.
26 ,, thirds	6½d.	Em'lled, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot s.	d.
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1	0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide ..	2	"

VARNISHES, &c.

		Per Gallon. £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Opal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	6
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	0
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	6
Best ditto	ditto	1	2	6
Best Japan Gold Size		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	6
Liquid Dryers in Terebene		0	9	0
Cuirass Black Enamel		0	7	6

Index to British Standard Specifications.

The 1931 edition of the Index to British Standard Specifications has just been issued. It is a complete subject index, which, in view of the large number (410) of British Standard Specifications now available, some of which include provisions for several articles or materials, will be of much assistance to those purchasing engineering and allied material, apparatus and machinery. A numerical list of the specifications is also included. The list, which covers 38 pages, shows the wide range of subjects covered by the British Standard Specifications and should be in the hands of all drawing offices and contracts departments of firms throughout the engineering and allied industries which have found the British Standards of such benefit in the preparation of contracts. Copies are available from the Publications Department, British Engineering Standards Association, 28, Victoria-street, S.W.1, price 1s. 2d., post free.

Building Science Abstracts.

Issued by the Department of Scientific and Industrial Research, Vol. IV (New Series), No. 2, for February, 1931, of Building Science Abstracts, comprising Nos. 215-396, have been published (price 9d. net, or 10s. per annum) by H.M. Stationery Office.

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Aberdeen.—ENLARGEMENT.—Hopes were expressed at the annual meeting of the Aberdeen Maternity Hospital that an early start will be made with a new and enlarged hospital at Foresterhill.

Bo'ness.—HOUSES.—The T.C. are to erect 44 houses at Deanfield.

Edinburgh. — ADDITIONS. — H.M.O.W. are inviting tenders for additions and alterations to Hope-street branch post office. Architect to H.M.O.W., 122, George-street, has prepared the plans.

Edinburgh. — ADDITIONS. — Mr. E. J. MacRae, A.R.I.B.A., City Architect, has prepared plans for additions to Seafield Hospital.

Edinburgh.—HOUSING.—Plans granted by Dean of Guild Court:—City—extend cemetery at Portobello Cemetery, Milton-road; Commissioners of H.M. Works and Public Buildings—telephone exchange at St. John's road, Corstorphine; Carleton Henry Dunlop—excavations and foundations for six houses at Blinkbonny-avenue; Sir James Miller's Trustees—demolish eight cottages and erect seven new cottages at Milton-road, Portobello; Smith & Murdoch—five bungalows at Featherhall-crescent North, Corstorphine; James D. Mitchell—nineteen garages at Clermiston-road.

Falkirk.—DRAINAGE SCHEME.—Stirling C.C. has approved of a joint scheme to be carried out in conjunction with Falkirk T.C. for the drainage of the burgh of Falkirk and the Larbert Special Drainage District. The capital cost of the scheme is estimated at £94,100.

Inverness.—HARBOUR.—Inverness Harbour Trustees are proposing to proceed with a £25,000 extension scheme. An engineer is to be instructed to prepare specifications and schedules and receive tenders for the proposed improvements.

Inverness-shire. — RECONSTRUCTION. — The C.C., with the approval of the Ministry of Transport, have appointed Messrs. N. B. Carson & Gillies, civil engineers, 140, West George-street, Glasgow, as consultants for the reconstruction scheme in Skye, under which new bridges will be erected and others renewed and strengthened.

Electrical Heating.

Mr. Ronald Grierson, A.M.I.E.E., read a paper on "The Electrical Heating of Buildings" before the Institution of Electrical Engineers on March 26. The lecturer dealt with the various methods of heating by electricity, and proceeded to put the case for electricity as an ideal means of heating. The paper, which was fully illustrated with photographs and diagrams, has been reprinted.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'† Plasterers'.‡
Aberdeen	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Alexandria	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Arbroath	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Ayrshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Bathgate	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2 1/3
Berwickshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/7	†1/2½
Broughty Ferry	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Clackmannanshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Dumbartonshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dumfries	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Dumfriesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Dundee	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunoon	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
East Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Edinburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Forfarshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Fort William	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/2
Galashiels	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Glasgow	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½
Hawick	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Helensburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Inverness	1/5	1/5	1/5	1/5	1/5	1/5	1/5	10d.-1/2
Inverurie	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Kincardineshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Kinross-shire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkwall	1/5	1/5	1/5	1/6	1/5	1/5	1/7	1/-
Lanarkshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Midlothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½
Peeblesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Perth	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Perthshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Peterhead	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Renfrewshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Rothesay	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Roxburghshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
St. Andrew's	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Selkirkshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Stirling	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Stirlingshire, West	1/6	1/6	1/6	1/6	1/6	1/6	1/7	1/1
Stornoway	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
West Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 640.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	,, ,,	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	30	0
Add if in underpinning in short lengths	,, ,,	6	0
Add if in floors 6 in. thick	,, ,,	2	6
Add if in beams	,, ,,	3	0
Add if aggregate 1 : 2 : 4	,, ,,	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,,	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	,,	7	10	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	,, ,,	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork:—				
Fair external in half brick rings	,, ,,	0	0	10
Axed in stocks	,, ,,	0	1	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	,, ,,	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	,,	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,, ,,	1	0

MASON.

York stone templates fixed	per foot cube	13	0
York stone sills fixed	,, ,,	22	0
Bath stone and all labour fixed	,, ,,	10	6
Beer stone and all labour fixed	,, ,,	15	0
Portland stone fixed	,, ,,	20	0
Chilmark stone fixed complete	,, ,,	17	6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20 in. × 10 in. Do. Do.	,,	80	9
Do. 24 in. × 12 in. Do. Do.	,,	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	4	6	
Do. joists	,, ,,	5	0	
Do. roofs, floors and partitions	,, ,,	5	6	
Do. trusses	,, ,,	8	6	

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-
Flat centering for concrete floor, including struts or hangers	,,	50	0		
Do. to beams	per ft. sup.	0	9		
Centre for arches	,,	1	6		
Gutter boards and bearers	,,	1	0		

FLOORING.		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.	—	42/6	50/-	57/6
Do. tongued and grooved	,,	—	47/-	56/-	64/-
Do. matchings	,,	44/-	49/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES		s.	d.
One-and-a-half moulded sashes o casements	per foot super	1	10
Two Do. Do. Do.	,, ,,	2	1
Add for fitting and fixing	,, ,,	0	3
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights: average size	,,	3	9

DOORS.		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	,,	2/4	2/6	2/9
Two-panel moulded both sides	,,	2/6	2/9	2/11
Four-panel Do. Do.	,,	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

				s.	d.
Deal wrot moulded and rebated	per foot cube			14	0
		1"	1¼"	1½"	
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11	
Deal shelves and bearers	,,	1/4	1/6	1/9	
Add if cross-tongued		2d.	2d.	2d.	

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail average, 3 in. × 3 in.	,, ,,	5	0
Add if ramped	,, ,,	12	0
Add if wreathed	,, ,,	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	,,	19	0
Do. stanchions	,,	21	9
In roofwork	,,	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	,,	1/6	1/9	2/3	2/9
Rain-water pipes with ears	,,	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	,,	1/6	1/10	2/9	3/3
Do. nozzles for inlets	,,	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	42	0
Do. Do. in flats	,,	41	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	,, ,,	1	3
Copper nailing	,, ,,	0	3

		¼"	½"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/1	1/7	1/10	3/-	3/6	—
Do. service	,,	1/6	2/-	2/5	3/6	—	—
Do. soil	,,	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	3/-	6/6
Soldered stop ends	,,	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	,,	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	,,	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	,,	—	—	—	12/7	17/6	—
Bib cocks and joints	,,	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	,,	15/4	17/2	25/8	64/-	—	—

PLASTERER.

			s.	d.
Render, float and set in lime and hair	per yard sup.		2	5
Do. Do. Sirapite	,, ,,		2	8
Do. Do. Keen's	,, ,,		3	10
Add saw lathing	,, ,,		1	7
Add metal lathing	,, ,,		2	6
(Not including hangers or runners, etc. for suspended ceilings.)				
Portland cement screed	,, ,,		2	2
Do. plain face	,, ,,		3	3
Mouldings in plaster	per 1 girth		0	1½
One-and-a-half granolithic pavings	per yard sup.		5	3

GLAZIER.

			s.	d.
21-oz. sheet plain	per foot sup.		0	8½
26-oz. Do.	,, ,,		1	0
Obscured sheet	,, ,,		1	1
¼-in rolled plate	,, ,,		0	9
¼ in. rough rolled or cast plate	,, ,,		0	10½
¼-in. wired cast plate	,, ,,		1	4

PAINTER.

			s.	d.
Preparing and distempering, 2 coats	per yard sup.		0	9
Knotting and priming	,, ,,		0	7
Plain painting, 1 coat	,, ,,		0	9
Do. 2 coats	,, ,,		1	2
Do. 3 coats	,, ,,		1	9
Do. 4 coats	,, ,,		2	4
Graining	,, ,,		2	3
Varnishing twice	,, ,,		1	9
Sizing	,, ,,		0	3
Flatting	,, ,,		0	7
Enamel	,, ,,		1	1
Wax polishing	per foot sup.		0	6
French polishing	,, ,,		1	2
Preparing for and hanging paper	per piece,	2/-	to	4/-

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PRICES CURRENT OF MATERIALS—(*cont.*)

PAINTS, &c.—(*cont.*)

GENUINE WHITE LEAD PAINT.

	£ s. d.
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots per ton delivered..	63 10 0
Red Lead, Dry (packages extra) ..per ton	31 10 0
Best Linseed Oil Putty ..... per cwt.	0 13 6
Filicol ..... ,,	0 16 6
Size. XD quality ..... fkn.	0 3 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.
15 oz. fourths.. 2½d.	32 oz. fourths	6½d.
15 ,, thirds 3½d.	32 ,, thirds	9d.
21 ,, fourths 3½d.	Obscured Sheet, 15 oz. ..	3½d
21 ,, thirds . 4d.	,, ,, 21 oz.	4½d.
26 ,, fourths .. 4½d.	Fluted, 15 oz. 7d., 21 oz.	9½d.
26 ,, thirds 6½d.	Em'lled, 15 oz. 4½d., 21 oz.	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES. Per ft.

¼ Rolled plate	4½d.
⅛ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot s. d.
Clear sheet—not exceeding 1 foot	1 0
Do. do. 2 feet	1 3
Do. over 2 feet	1 9
Polished plate—not exceeding 1 foot	1 6
Do. not exceeding 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
Do. larger sizes	1 6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide ..	2

VARNISHES, &c.

		Per Gallon. £ s. d.
Oak Varnish	Outside	0 14 0
Fine ditto	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Opal Carriage	ditto	1 4 0
Best ditto	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 6
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 0
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak	ditto	0 19 6
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 12 6
Best ditto	ditto	1 2 6
Best Japan Gold Size		0 12 0
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 0
Berlin Black		0 14 0
Knotting (patent)		1 5 0
French and Brush Polish		0 17 6
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

Index to British Standard Specifications.

The 1931 edition of the Index to British Standard Specifications has just been issued. It is a complete subject index, which, in view of the large number (410) of British Standard Specifications now available, some of which include provisions for several articles or materials, will be of much assistance to those purchasing engineering and allied material, apparatus and machinery. A numerical list of the specifications is also included. The list, which covers 38 pages, shows the wide range of subjects covered by the British Standard Specifications and should be in the hands of all drawing offices and contracts departments of firms throughout the engineering and allied industries which have found the British Standards of such benefit in the preparation of contracts. Copies are available from the Publications Department, British Engineering Standards Association, 28, Victoria-street, S.W.1, price 1s. 2d., post free.

Building Science Abstracts.

Issued by the Department of Scientific and Industrial Research, Vol. IV (New Series), No. 2, for February, 1931, of Building Science Abstracts, comprising Nos. 215-396, have been published (price 9d. net, or 10s. per annum) by H.M. Stationery Office.

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Aberdeen.—ENLARGEMENT.—Hopes were expressed at the annual meeting of the Aberdeen Maternity Hospital that an early start will be made with a new and enlarged hospital at Foresterhill.

Bo'ness.—HOUSES.—The T.C. are to erect 44 houses at Deanfield.

Edinburgh. — ADDITIONS. — H.M.O.W. are inviting tenders for additions and alterations to Hope-street branch post office. Architect to H.M.O.W., 122, George-street, has prepared the plans.

Edinburgh. — ADDITIONS. — Mr. E. J. MacRae, A.R.I.B.A., City Architect, has prepared plans for additions to Seafield Hospital.

Edinburgh.—HOUSING.—Plans granted by Dean of Guild Court:—City—extend cemetery at Portobello Cemetery, Milton-road; Commissioners of H.M. Works and Public Buildings—telephone exchange at St. John's road, Corstorphine; Carleton Henry Dunlop—excavations and foundations for six houses at Blinkbonny-avenue; Sir James Miller's Trustees—demolish eight cottages and erect seven new cottages at Milton-road, Portobello; Smith & Murdoch—five bungalows at Featherhall-crescent North, Corstorphine; James D. Mitchell—nineteen garages at Clermiston-road.

Falkirk.—DRAINAGE SCHEME.—Stirling C.C. has approved of a joint scheme to be carried out in conjunction with Falkirk T.C. for the drainage of the burgh of Falkirk and the Larbert Special Drainage District. The capital cost of the scheme is estimated at £94,100.

Inverness.—HARBOUR.—Inverness Harbour Trustees are proposing to proceed with a £25,000 extension scheme. An engineer is to be instructed to prepare specifications and schedules and receive tenders for the proposed improvements.

Inverness-shire. — RECONSTRUCTION. — The C.C., with the approval of the Ministry of Transport, have appointed Messrs. N. B. Carson & Gillies, civil engineers, 140, West George-street, Glasgow, as consultants for the reconstruction scheme in Skye, under which new bridges will be erected and others renewed and strengthened.

Electrical Heating.

Mr. Ronald Grierson, A.M.I.E.E., read a paper on "The Electrical Heating of Buildings" before the Institution of Electrical Engineers on March 26. The lecturer dealt with the various methods of heating by electricity, and proceeded to put the case for electricity as an ideal means of heating. The paper, which was fully illustrated with photographs and diagrams, has been reprinted.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'† Plasterers'.†
Aberdeen	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Alexandria	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Arbroath	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Ayrshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Bathgate	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2 1/3
Berwickshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Broughty Ferry	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Clackmannanshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Dumbartonshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dumfries	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Dumfriesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Dundee	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Dunoon	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
East Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Edinburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Forfarshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Fort William	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/2
Galashiels	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Glasgow	1/7½	1/8	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½
Hawick	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Helensburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Inverness	1/5	1/5	1/5	1/5	1/5	1/5	1/5	10d.-1/2
Inverurie	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	1/2½
Kincardineshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Kinross-shire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Kirkwall	1/5	1/5	1/5	1/6	1/5	1/5	1/7	1/-
Lanarkshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Midlothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½
Peeblesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Perth	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Perthshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
Peterhead	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/7	1/2
Renfrewshire	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Rothesay	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Roxburghshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1½
St. Andrew's	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Selkirkshire	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
Stirling	1/7	1/7	1/7	1/8	1/7	1/7	1/7	‡1/2½ †1/2½
Stirlingshire, West	1/6	1/6	1/6	1/6	1/6	1/6	1/7	1/1
Stornoway	1/6	1/6	1/6	1/7	1/6	1/6	1/7	1/1
West Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/7	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7	‡1/2½ †1/2½

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 640.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	,, ,,	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	30	0
Add if in underpinning in short lengths	,, ,,	6	0
Add if in floors 6 in. thick	,, ,,	2	6
Add if in beams	,, ,,	3	0
Add if aggregate 1 : 2 : 4	,, ,,	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,,	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	,,	7	10	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	5	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	,, ,,	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork:—			
Fair external in half brick rings	,, ,,	0	10
Axed in stocks	,, ,,	1	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	6

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	,, ,,	0	1
Setting ordinary register grates and stoves	each	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	,,	4	15

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,, ,,	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	,, ,,	22	0
Bath stone and all labour fixed	,, ,,	10	6
Beer stone and all labour fixed	,, ,,	15	0
Portland stone fixed	,, ,,	20	0
Chilmark stone fixed complete	,, ,,	17	6

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, inc nailing	per square	72	9
Do. 20 in. × 10 in. Do. Do.	,,	80	9
Do. 24 in. × 12 in. Do. Do.	,,	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	4	6
Do. joists	,, ,,	5	0
Do. roofs, floors and partitions	,, ,,	5	6
Do. trusses	,, ,,	8	6

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	,,	50	0
Do. to beams	per ft. sup.	0	9
Centre for arches	,,	1	6
Gutter boards and bearers	,,	1	0

FLOORING.

		¾″	1″	1¼″	1½″
Deal-edges shot	per sq.	—	42/6	50/-	57/6
Do. tongued and grooved	,,	—	47/-	56/-	64/-
Do. matchings	,,	44/-	49/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	,, ,,	2	1
Add for fitting and fixing	,, ,,	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights: average size	,,	3	9

DOORS.

		1½″	1¾″	2″
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	,,	2/4	2/6	2/9
Two-panel moulded both sides	,,	2/6	2/9	2/11
Four-panel Do. Do.	,,	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	,,	1/4	1/6	1/9
Add if cross-tongued		2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail average, 3 in. × 3 in.	,, ,,	6	0
Add if ramped	,, ,,	12	0
Add if wreathed	,, ,,	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	,,	19	0
Do. stanchions	,,	21	9
In roofwork	,,	27	6

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	,,	1/6	1/9	2/3	2/9
Rain-water pipes with ears	,,	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	,,	1/6	1/10	2/9	3/3
Do. nozzles for inlets	,,	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	42	0
Do. Do. in flats	,,	41	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	,, ,,	1	3
Copper nailing	,, ,,	0	3

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	1/1	1/7	1/10	3/-	3/6	—
Do. service	,,	1/6	2/-	2/5	3/6	—	—
Do. soil	,,	—	—	—	—	—	6/-
Bends in lead pipe	each	—	—	—	—	3/-	6/6
Soldered stop ends	,,	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	,,	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	,,	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	,,	—	—	—	12/7	17/6	—
Bib cocks and joints	,,	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	,,	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	5
Do. Do. Sirapite	,, ,,	2	8
Do. Do. Keen's	,, ,,	3	10
Add saw lathing	,, ,,	1	7
Add metal lathing	,, ,,	2	6
(Not including hangers or runners, etc. for suspended ceilings.)			
Portland cement screed	,, ,,	2	2
Do. plain face	,, ,,	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	3

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	,, ,,	1	0
Obscured sheet	,, ,,	1	1
⅛-in rolled plate	,, ,,	0	9
¼ in. rough rolled or cast plate	,, ,,	0	10½
¼-in. wired cast plate	,, ,,	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	,, ,,	0	7
Plain painting, 1 coat	,, ,,	0	9
Do. 2 coats	,, ,,	1	2
Do. 3 coats	,, ,,	1	9
Do. 4 coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per foot sup.	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

Concrete Engineers' Welsh Branch.

The address of the Welsh office of the British Reinforced Concrete Engineering Co., Ltd., is 2, St. Andrews-place, Cardiff.

A London Office for Steel Floors.

Owing to expansion of business, the Hollow Steel Floor Co., Ltd., of Middlesbrough, have opened a London office at 400, Abbey House, Westminster, where their representative is Mr. E. Davies. Telephone: Victoria 3669.

Girl Guides' Headquarters.

In our issue for March 20 we illustrated the Girl Guides' new Imperial Headquarters. The stonework to the Buckingham Palace-road and Palace-street frontages was executed in Portland stone by Messrs. J. Bysouth, Dorset-road, S. Tottenham, N.15.

Trucks for the Building Trade.

Builders and contractors who are looking for high-class trucks for their business should write to the Nibby Truck Co., Ltd., at Wolseley-street, Reading, for a copy of a catalogue giving full specifications and illustrations of the range of "Nibby" trucks. These are guaranteed to be of first-grade manufacture, and for light transport should be what builders require.

Standard Tar.

The British Engineering Standards Association has just published a further specification for road tar, designated "Tar No. 3." This specification, the draft of which was prepared by the British Road Tar Association, provides for a tar suitable for the manufacture of tarmacadam laid by the hot or semi-hot process, as an alternative to Tar No 2 contained in B.S. Specification No. 76-1930, and its viscosity is higher than that of this latter tar. Copies of the new specification (No. 76, Part 2-1931) may be obtained from the British Engineering Standards Association, Publications Department, 28, Victoria-street, S.W.1, price 2s. 2d. post free.

"British Goods Only."

The rebuilding of the Palm Court Hotel, Torquay, is now proceeding to the plans of Messrs. Collier & Keyte, Birmingham. The builders are Messrs. Parsons & Morrin, also of Birmingham. The following notice posted outside the hotel is of particular interest:—"Rebuilding, 1931. All the materials and equipment are specified 'British manufacture.'" To architects and others who believe that British building goods made in the tested and approved British manner are best it may be pointed out that to obtain such goods it is not enough to specify against an item "British manufacture," as such wording permits some foreign-origin materials to be used which only undergo the final processes of manufacture in this country. To guard against this architects should specify "wholly made in Britain" against items.

The Swedish Exhibition.

The conversion of the empty shell of Dorland House, Regent-street, into suitable premises for the Exhibition of Swedish Industrial Art was a problem which confronted Mr. Hakon Ahlberg. The material used for sub-dividing the bare floors was the new Treetex Insulating Board, which can be seen on all walls, partitions and stands, and also on parts of the ceiling. This material makes a very strong and attractive wall and appears to be particularly adaptable for decoration. We understand the board is light and easy to handle, and that the work was carried out in very short time. Examples of this board (which has two distinct surfaces) will also be viewed in the "Hush-Hush" house, designed by Mr. A. Trystan Edwards for the Ideal Home Exhibition, in which it is employed throughout. The headquarters of Treetex are at 421-4, Australia House, Strand, W.C.2.

British Industries and Canada.

As a result of the Imperial Conference, arrangements have been made, with the co-operation of the Canadian Government, for a delegation representing the Federation of British Industries to visit Canada, with a view to discussing with Canadian industrialists problems affecting the two countries. Sir James Lithgow, President of the F.B.I., will lead the delegation. It is proposed, in particular, to explore the possibilities of co-operation between Canadian and British industrialists, in order that co-operation may be, so far as possible, substituted for competition between the industries of the two countries. The various problems involved will need careful discussion, but there is no doubt that, with the good will which exists on both sides, substantial progress should be possible towards a rationalisation of production between the two countries.

British Doors: A New Scheme.

Early last week work was actually commenced in the Midlands on the construction of a new door factory, designed to carry out mass production of dowelled doors. It is anticipated that the factory will be completed during May and the necessary rate of progress to ensure deliveries being made by the middle of June is being fully maintained. We understand that the factory is being laid out for the production of 350,000 doors per annum, but the design for the building and plant allows for considerable extension if required. Contracts for the necessary supply of timber to provide for a start immediately the equipment is ready have been placed. It is probable that a further two door factories will be operated—one near the Western Coast and another near London, so as to effectively and efficiently cover the West Country and the South and South-East Coasts respectively. The new door will be made with almost entirely British machinery, by British workmen from Empire materials, in an endeavour to produce a door which will fulfil the requirements of the Ministry of Health, London County Council and the numerous city and municipal authorities who now require an all-British door in their many schemes.

A Development in Paint Manufacture.

A new synthetic resin finish has been introduced by Nobel Chemical Finishes, Ltd., which is claimed to represent the biggest advance in the manufacture of finishes since the introduction of cellulose. For many years the manufacture of paints, enamels and varnishes has been based on a process of assembling known oils, resins and pigments. Only minor improvements have been made from time to time in these orthodox finishes, which, at best, produce a film susceptible to rapid disintegration. The largest single development during the last few years has been the introduction of cellulose finishes, which offer many advantages over other finishing materials in use. Since the introduction of cellulose, manufacturers have been undertaking extensive experimental and research work into the production of a new material, which would replace the existing stoving enamels and other oil finishes which have changed so little in many years. Messrs. Nobel Chemical Finishes, Ltd., claim to have produced such a material in "Dulux." Architects and public works contractors should investigate the matter fully and carefully, for obvious applications in the industrial field are to structural steel bridges, railway equipment signs, machinery, automatic machines, refrigerators, scales, gas and electric fires, art metal work of all kind, washing machines, wringers, office filing cabinets, etc. The air-drying "Dulux" finishes for application by brush or spray are obviously suited to decoration, both interior and exterior, of cinemas, public buildings and private houses.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office*.

Andover.—Printing works, for Messrs. Kelly's Directories, Ltd. Mr. A. Jessop Hardwick, F.R.I.B.A., architect, Eagle-chambers, Kingston-on-Thames:—

Leslie & Co.	£63,662
W. H. Gaze & Sons	61,445
Holloway Bros., Ltd.	60,969
Walter Lawrence & Son	59,475
Trollope & Colls, Ltd.	59,367
Higgs & Hill, Ltd.	59,383
*James Carmichael, Ltd.	58,329

Angus.—Excavation, drainage and embankment works, bottoming the carriageway, supplying and laying kerb, constructing footpaths, and mason works, in connection with the Kingsway extension scheme, for the C.C. Mr. W. Wyllie, engineer, Road Surveyor's Office, Longhaugh, Dundee:—

Pirrie & Co., Ltd., Edinburgh	£47,996
G. Mackay & Son, Edinburgh	47,595
George Duncan & Son, Ltd., Caithcart, Glasgow	38,712
A. M. Carmichael, Edinburgh	37,446
Henry Boot & Sons (Scotland), Ltd., Glasgow	33,514
David Callender, Forfar	33,444
William Tawse, Ltd., Aberdeen	32,624
J. J. & P. McLachlan, Ltd., Larbert	30,942
Thomas Millar & Son, Dunfermline	30,150
Tulloch & Strachan, Dundee	29,741
Charles Dick & Son, Monifieth, Angus	29,985
*David Horsburgh, Dundee	29,600

Barmby Moor (York).—Village institute at Barmby Moor, York. Mr. H. Wynne, School House, Barmby Moor, York:—

Hurlingham Bungalow Co., London	£785
Birch & Sons, York	768
Steel & Sons, Pocklington	545
*Allison & Sons, Pocklington	500

Billingham.—100 houses on the Cowpen-lane housing estate, for the T.C.:—

*S. Coates, Ltd., Middlesbrough	£31,976

Birmingham.—Residential open-air school on the Cropwood estate, Blackwell, for the E.C.:—

*Morris, Jacombs & Sons, Ltd., 71, Hobmoor-road, Small Heath, Birmingham	£17,885

Birmingham.—Additional science and domestic science rooms and improvements at Canterbury-road senior girls school; and additions at the junior and infants school, for the E.C.:—

*Chas. Twigg, Birmingham	£3,527

Birmingham.—Alterations and additions at Lozells-street senior girls, junior, and infants schools, for the E.C.:—

*W. and J. Webb, Birmingham	£6,280

Birmingham.—Demolition of existing two-story classrooms, new science laboratory, and alterations at Rea-street senior boys' school; and additions and alterations to the junior school, for the E.C.:—

*R. Fenwick, Ltd., Birmingham	£6,900

Birmingham.—For (*a*) installation of low-pressure hot-water heating apparatus at Bordesley Green Council school; (*b*) builder's work in connection with same, for the E.C.:—

(*a*) *The Brightside Foundry and Engineering Co., Ltd., 17, Summer-row, Birmingham	£1,900 10 0
(*b*) *E. G. Brown & Sons, Stechford, Birmingham	£1,497 12 4

Birmingham.—Additional staffroom and storeroom, new classrooms, handicraft room and science laboratory and headmaster's room and store at Yardley-road senior mixed school, and improvements at the infants' school, for the E.C.:—

*C. Bryant & Son, Ltd., Small Heath, Birmingham	£5,788

Bourne.—For (*a*) eight houses at Billingborough, and (*b*) four houses at Morton, for the R.D.C.:—

(*a*)—*Longland	£2,540
(*b*)—*Harwood Bros.	1,260

Chelmsford.—External painting of 250 houses on the Boarded Barns estate, for the T.C.:—

*A. J. Cawley	£650

Chipping Norton.—16 parlour type houses, for the T.C.:—

*Ivey & Sons, Poplar, E.	£5,279 14

East Ardsley.—12 houses in Westerton-road, West Ardsley, for the U.D.C. Mr. C. C. Glover, surveyor:—

*J. S. Bramley	£3,530

Enfield.—Office building for the district and collecting staff of the Enfield area of the Northern district, for the M.W.B.:—

Geo. Butters & Sons	£2,080 0 0
William Moss & Sons, Ltd.	1,975 0 0
Jas. Webb & Son	1,850 0 0
Kellands, Ltd.	1,787 0 0
E. B. Holmes & Co., Ltd.	1,774 0 0
F. R. Hipperson & Son	1,770 0 0
Callow & Wright, Ltd.	1,678 12 8
Allen, Bros.	1,601 10 0
Arbro, Ltd.	1,595 0 0
*H. J. Gower, Ltd.	1,545 0 0

Folkestone.—Men's public convenience in Beach-street, for the T.C. Borough Engineer, 11, Church-street:—

°C. Jenner & Son, 53, Broadmead-road, Folkestone £879

Glasgow.—126 three- and four-apartment houses at Cottar-street, Maryhill, for the Corporation. Mr. Robert Horn, F.R.I.B.A., Housing Director, Corporation Offices:—

°B Angus McDougall & Co., Glasgow £16,781 13 5

Glasgow.—Heating installation at Knightswood-road school, for the E.C.:—

°J. Coombe & Sons, Ltd., 105, North Heaver-street, Glasgow £2,403 9 8

Greenock.—Alterations and extensions to property at Mansion House-lane, for Messrs. J. Menzies & Co., Ltd. Mr. Alexander S. MacGregor, architect, 2, Hamilton-street:—

°Wm. H. Kirkwood, Ltd., South-street, Greenock.

Greenock.—Three villas at Peel-street. Mr. Frank McKillip, architect, Larkfield-road:—

°Robert Aitkenhead & Sons, Trafalgar-street, Greenock.

Hawarden.—Convent for the Poor Clares Colletines, at Hawarden, near Chester. Messrs. Edwards & Silcock, A.A.R.I.B.A., architects, Church-street, Flint. Quantities by Mr. T. Sumner Smith F.S.I., quantity surveyor, Clifton Lodge, Victoria-park, Manchester:—

°A. B. Lloyd & Son, Flint, N. Wales.

Hull.—750 parlour and non-parlour houses on the Endyke-lane housing estate, for the Corporation:—

°Simms, Sons & Cooke, Ltd., Nottingham £243,232

Hull.—Reinforced concrete arched bridge across the Beverley-Barmston drain, Endyke-lane, for the Corporation:—

°K. Holst & Co., Leeds £4,120

Hull.—New orthopædic hospital, for the Corporation:—

°R. G. Taran, Hull £31,005

Irlam.—Primary department, to the Wesleyan schools in Liverpool-road, for Rev. Simon C. Hall, Wesleyan Superintendent Minister. Messrs. Arthur Brocklehurst & Co., F.R.I.B.A., architects, Martin's Bank-buildings, 10, Norfolk-street, Manchester:—

°Brew Brothers, Cadishead, nr. Manchester.

Kiveton Park.—Converting into water closets 135 pail closets in the parish of Dinnington, for the R.D.C. Mr. F. J. Thrackray, surveyor:—

°T. J. Green & Co., Worksop £1,067

Lancaster.—Wards, operating theatre, etc., at the Royal Lancaster Infirmary, for Board of Management. Messrs. Austin & Paley, A.R.I.B.A., architects, 34, Castle-park:—

°A. O. Thoms, Lancaster £9,394

Leeds.—Demolition of existing buildings and erection of new offices in Bay Horse-yard, off Briggate, for the Stylo Boot Co., Ltd. Messrs. Kirk & Tomlinson, architects, Albion-street:—

°W. M. Coates & Son.

¶London.—Tenders accepted by H.M. Air Ministry for the week ending March 21:—

Peterborough—regimental buildings—A. H. Earnshaw & Son, Cleveland-buildings, Grange-road, Darlington.

Gosport—married quarters—Parklands, Mill-hill, N.W.7.

London.—Further garage accommodation to be provided at Marian-square depot, for the Bethnal Green B.C.:—

Humphreys, Ltd. £523
°Matthew Shaw & Co., Ltd. 416

London.—Wiring and fittings for electric lighting in six blocks of dwellings in course of erection on the southern portion of Clapham Park estate, for the L.C.C.:—

°City Electrical Co., Emerald-street, W.C. £1,807 7 11

London.—Wiring and fittings for electric lighting in five blocks of dwellings in course of erection on the Stamford-hill site, Hackney, for the L.C.C.:—

°A. Meckhonik, Old Kent-road, S.E. £1,410 8 4

London.—Rebuilding of Hanover-street Council school, Islington, for the L.C.C.:—

			Empire materials.
Leslie & Co., Ltd.	£34,320	...	£34,400
F. R. Hupperson & Son	34,165	...	—
G. H. Denne & Son, Ltd.	33,900	...	No variation.
Galbraith Bros., Ltd.	33,680	...	,,
Patman & Fotheringham, Ltd.	35,521	...	33,671
F. Troy & Co., Ltd.	32,299	...	No variation.
J. & C. Bowyer, Ltd.	32,129	...	,,
G. E. Wallis & Sons, Ltd.	31,869	...	,,
E. A. Roome & Co., Ltd.	31,839	...	,,
L. H. & R. Roberts	31,539	...	,,
C. P. Roberts & Co., Ltd.	31,500	...	31,535
°Albert Monk, Lower Edmonton, N.9	30,708	...	30,879
	30,040	...	No variation.

(Architect's estimate on basis i. £31,133.)
(All of London.)

London.—Cleaning and painting schools, for the L.C.C.:—

Balby-road elementary and Branstone-street (MD), (Kensington, N.)—
°W. Chappell and Co., Ltd., 243, Elgin-avenue, Maida Vale, W.9 ..... £1,098
Architect's estimate 1,345
Campbell-street, Paddington, N.)—
°W. H. Cooper & Son, 201, Hammersmith-road, W. 1,071
Architect's estimate 1,033
Cranbrook-road (Bethnal Green, N.E.)—
°Arthur H. Inns, Ltd., Fox-court, Holborn, E.C.1. 1,629
Architect's estimate 1,902
The Forster (Islington, E.)—
°Stevens & Sons, 67, Crouch-hill, N.4 ... 1,118
Architect's estimate 1,079
Hoxton House and Shoreditch central (Shoreditch)—
°Joseph Darch, Ltd., 18 and 19, Whitefriars-street, Fleet-street, E.C.4 1,600
Architect's estimate 1,732
Hungerford-road (Islington, W.)—
°F. Troy and Co., Ltd., 194-6, Finchley-road, N.W.3 1,185
Architect's estimate 1,211
Little-road (Fulham, W.)—
°Trigg & Co., Ltd., Tambourn Works, Mackay-road, Clapham, S.W.4 1,281
Architect's estimate 1,437
Stockwell-road (Brixton)—
°W. T. Dixon & Sons, 1, Blue Anchor-lane, Bermondsey, S.E.16 1,282
Architect's estimate 1,340

London.—Additional accommodation for nurses at the North-Western hospital, Hampstead, for the L.C.C.:—

S. Shaw, Ltd. £3,247
George Keetch & Sons 2,662
J. & R. Thompson (London), Ltd. ... 2,405
Stevens & Sons 2,384
F. Cottrell, Ltd. 2,375
Whitbys, Ltd. 2,366
William Lamg 2,289
C. H. Boyd & Son, Ltd. 2,130
J. D. Hobson, Ltd. 2,020
°F. Troy & Co., Ltd., Finchley-road, N.W.3 1,864

(All of London.)

¶London.—Tenders accepted by H.M.O.W. for the week ending March 27:—

Kensington Gardens and Richmond Park—erection of bandstands—Limpus & Son, Kingston-hill, Kingston-on-Thames.

Ashford Post Office—erection—H. J. & A. Wright, Ltd., High-street, Gt. Missenden.

Kensington Gardens and Richmond Park—steel-work—The Patent Shaft and Axletree Co., Ltd., Wednesbury.

Kensington Gardens and Richmond Park—ornamental metal work—Birmingham Guild, Ltd., Grosvenor-street West, Birmingham.

Houses of Parliament—repairs to stonework—J. Mowlem & Co., 41, Ebury Bridge-road, S.W.

Houses of Parliament—repairs to stonework—Trollope & Colls, Ltd., 5, Coleman-street, E.C.2.

Blackpool Head Post Office and Telephone Exchange—steel casements—Crittall Manufacturing Co., Ltd., 210, High Holborn, W.C.1.

Burnham-on-Sea P.O.W.S.—alterations and extensions—W. J. Poole & Sons, Burnham-on-Sea.

Corstorphine (Edinburgh) T.E.—erection—Colin Macandrew, Ltd., 11, West End-place, Edinburgh.

Darlington H.P.O.—alterations—A. H. Earnshaw & Son, Grange-road, Darlington.

London.—Exterior and interior painting and repairs to roofs at Newington institution, for the L.C.C.:—

F. Stevens £2,583 17 7
T. Sadler & Son 2,557 5 4
T. Jamieson, Junior 2,281 0 0
W. O. Everitts, Ltd. 1,997 0 0
James Easton 1,994 0 0
Harrison & Spooner, Ltd. 1,924 16 9
E. B. Holmes & Co., Ltd. 1,863 0 0
Arthur H. Inns, Ltd. 1,845 0 0
W. H. Wagstaff & Sons 1,797 0 0
Decra, Ltd. 1,786 0 0
Andrew Black & Son 1,620 0 0
Prestige & Co., Ltd. 1,617 0 0
Sykes & Son, Ltd. 1,613 15 6
Robinson, Boyce & Co. 1,595 0 0
Robert Scase & Son, Ltd. 1,497 0 0
J. D. Hobson, Ltd. 1,480 0 0
W. Bickerton 1,460 0 0
Stonely & Co. 1,459 0 0
W. Chappell & Co., Ltd. 1,450 0 0
Halse & Sons, Ltd. 1,420 0 0
R. Woollaston & Co. 1,414 0 0
A. J. Graham, Ltd. 1,389 0 0
Jaxons, Ltd. 1,382 10 0
W. Palmer & Sons 1,357 0 0
K. G. Vipond 1,344 0 0
George H. Tozer, Ltd. 1,327 4 0
Lilly & Sons 1,327 0 0
Harding & Marks 1,295 0 0
J. Read & Co. 1,285 0 0
C. Berger 1,253 0 0
E. Maffia & Sons 1,206 11 6
E. Proctor & Sons 1,205 0 0
C. & T. Painters, Ltd. 1,145 12 1
P. Miller & Son, Highfield-road North, Dartford 1,000 0 0
Chief Engineer's estimate 1,500 0 0

(All of London.)

London.—Building work in connection with the extension of Sheffield-street hospital, for the L.C.C.:—

Mullen & Lumsden, Ltd. £3,878
Joseph Darch, Ltd. 3,675
C. H. Boyd & Son, Ltd. 3,472
Whitbys, Ltd. 3,470
W. J. Dixon & Sons 3,407
Cole, Loasby & Co., Ltd. 3,373
J. & C. Bowyer, Ltd. 3,344
G. Keetch & Sons 3,162
A. H. Inns, Ltd. 2,777
°H. King & Son (Peckham), Ltd. Commercial-road, S.E.15 2,500

(All of London.)

London.—Providing and fixing low-pressure hot-water heating and supply apparatus and alterations to existing apparatus, at the Westminster Technical Institute, for the L.C.C.:—

J. & F. May £2,158
H. & H. Davies & Co., Ltd. 2,156
George Davis 2,062
Clark, Hunt & Co., Ltd. 2,059
Thames Bank Iron Co., Ltd. 2,019
Brightside Foundry and Engineering Co., Ltd. (incomplete) 1,994
Fretwell Heating Co. 1,990
J. Jeffreys & Co., Ltd. (incomplete) 1,975
H. J. Cash & Co., Ltd. 1,948
W. G. Cannon & Sons, Ltd. 1,940
Heywood & Bryett 1,938
°Beaven & Sons, Ltd., 64, Victoria-street, S.W.1 1,888

Architect's estimate, £2,109.
(All of London.)

Malton.—Reconstruction of public lavatories in the Market-place, near the bus stands and public parking place for motor vehicles, for the U.D.C.:—

Bricklayer's work—
°E. Norton £212 7 0
Joiner's work—
°Turner Bros. 52 15 6
Plumbers' work—
°M. A. Taylor & Sons 85 11 10

Manchester.—Extensions and alterations to Styal Cottage Homes, for the E.C.:—

°B. Smith, Sale.

Monkseaton.—For the erection of Monkseaton new senior Council school, for the Northumberland C.C. Mr. W. W. Tasker, County Architect, 17, Claremont Place, Newcastle-upon-Tyne:—

‡Geo. Towers, Union-street, Blyth ... £17,100

Northampton.—Adaptation of "Merchiston" Billing-road for a patients' home, for the Board of Governors of St. Andrew's Hospital, Billing-road. Messrs. Law Harris & Croft, F.R.I.B.A., architects, 9, Gold-street:—

°J. T. Powell, Northampton.

Nottinghamshire.—Extensions at Sutton Fields House, for the E.C. Mr. L. Maggs, F.R.I.B.A., County Architect, Shire Hall, Nottingham:—

°H. James, Jun., Mansfield £8,729

Rotherham.—100 houses for the R.D.C. (1) 12 houses and sewer at Brinsworth; 8 houses at Treeton, and drains, fences, footpaths, etc. (2) 12 houses at Aughton, 8 houses at Whiston, and drains, fences, footpaths, etc. (3) 12 houses and road at Bramley, 20 houses at Thurcroft, and drains, fences, footpaths, etc. (4) 12 houses at Dalton, 16 houses at Thrybergh, and drains, fences, footpaths, etc. Mr. A. E. Lant, engineer and surveyor:—

(1) °T. W. Outram & Son, Rotherham £5,922 7 4
(2) °W. Blair, Davis-street, Rotherham 5,782 10 0
(3) °H. Godley, Wickersley, near Rotherham 10,182 8 6
(4) °Thomason & Co., Scarthoe, Doncaster Road, Thrybergh, nr. Rotherham 8,168 0 0

Southampton.—Removal of existing concrete posts and wire fencing, and supplying and erecting new wood fencing in place thereof to the houses situate on the Woolston estate, for the C.B. Housing Manager:—

A. V. Edwards, Bitterne £2,390 8 0
P. N. Batt, Bitterne 1,187 10 0
A. B. Ross 1,143 0 0
Chalk & Sons 1,143 0 0
F. Houghton, Ltd., Bishop's Waltham 770 0 0
Henry Godwin, Surrey 762 0 0
Pollock, Brown & Co., Ltd. 753 15 0
Travis & Arnold 699 3 9
°A. Spanier & Son, West End 575 0 0

(Housing Manager's estimate, £740.)

Southampton.—Widening and reconstruction of Bassett Green-road from Bassett-green to Bassett Wood-road, for the C.B.:—

Associated Asphalt Co., Ltd. £15,939 5 10
Highways Construction, Ltd. ... 15,632 11 1
Tarmac, Ltd. 15,138 0 4
L. J. Speight, Ltd. 15,086 15 5
Colas Products, Ltd. 14,813 18 6
Baldry, Verburgh & Hutchinson, Ltd. 14,576 12 1
H. Osman & Co., Ltd. 14,291 4 2
Limmer & Trinidad Lake Asphalt Co., Ltd. 13,605 10 8
G. Wimpey & Co., Ltd. 13,350 5 0
Hadsphaltic Road, Ltd. 12,691 14 3
°Constable, Hart & Co., Ltd. ... 12,358 13 2

South Shields.—30 houses for aged people on the Marsden housing site, for the R.D.C.:—

°W. D. Allison, of Whitburn.

South Shields.—68 houses on the Stanley-terrace site, Tyne Dock, for the T.C.:—
*J. Barrow, Jarrow

Stamford.—Erection of 44 houses on the New Cross-road housing site, for the U.D.C. Mr. F. R. Ryman, engineer and surveyor. Quantities by Mr. F. R. Ryman:—
*J. W. Barber, Stangrand, Peterboro' £13,849

Stourbridge.—Maternity home at White Hall, Pedmore. Messrs. Martin & Martin & W. H. Ward, architects, 106, Colmore-row, Birmingham:—
*T. W. Edwards & Sons, Audnam, Stourbridge.

Sunderland.—Dance hall and waiting-hall are to be erected in connection with the Millfield Cinema. Messrs. W. & T. R. Milburn, architects, 13, Fawcett-street:—
*J. Waite, Sunderland.

Swinton.—Conversion of privies into water closets, for the U.D.C. Mr. E. Adams, Sanitary Inspector:—

‡O. Weaver, Mexborough	£2,413 3 0
‡B. Tugby, Swinton	2,387 16 0
‡Cooper & Son, Ltd., Conisborough	1,090 15 4
‡Banks & Son, Swinton	295 8 0
‡Williams Bros., Kilnhurst	294 11 5

Tankerton.—For erection of a club house at Tankerton, Whitstable, for the Tankerton Club, Ltd. Mr. A. A. Kemp, F.I.S.E., F.I.A.A., architect, Estate Office, Tower-parade, Whitstable:—

B. R. Rigden, Whitstable	£2,994 0
Tree & Castle, Ramsgate	2,912 2
Geo. Browning, Canterbury	2,865 0
C. E. Gooding, Canterbury	2,850 0
John Kemp, Whitstable	2,844 0
Reg. Elliot & Co., Margate	2,697 0
*J. B. Barton & Co., Strangford-road, Tankerton (amended)	2,600 0

Tottenham.—Block of shops and flats in High-road, Tottenham. Messrs. H. Seymour Couchman & Sons, architects, 520, High-road, Tottenham, N.17:—

J. & J. Dean	£6,488
Henry Knight & Son	5,979
Allen Fairhead & Son	5,924
F. E. Little	5,893
E. A. Roome	5,880
W. T. Yates	5,847
*Albert Monk	5,810

Waringstown.—New dispensary building, for Lurgan Guardians:—
*Samuel Cooper, Monbrief £299 18

Wharfedale.—Two additional houses on the Stocks Hill estate, Menston, for the R.D.C.:—
Bricklaying, etc.—*M. Cowling & Son.
Joiner—*F. Wheatley.
Plumber—*C. W. Smith.
Plasterer—*A. Firth & Son.
Slater—*C. Thornton.
Electrician—*H. H. Casse.
Painter—*Chas. Bilton.

Willenhall.—Rebuilding "New Inn" public-house, Walsall-street, for Messrs. W. Butler & Co., Ltd., Springfield Brewery, Wolverhampton. Mr. W. A. Hutchings, brewery's surveyor. Quantities by Messrs. Henry Vale & Sons, 16, Darlington-street, Wolverhampton:—
*F. & E. A. Linford, Sim-lane, Cannock.

York.—Church of the English Martyrs, and a Presbytery on a site near the old York Tyburn, for Rev. G. P. Richardson, the Presbyter, 3, Blossom-street. Messrs. Williams & Jopling, A.R.I.B.A., architects, Ferres-chambers, Whitefriargate, Hull:—
*W. Birch & Sons, Ltd., York.

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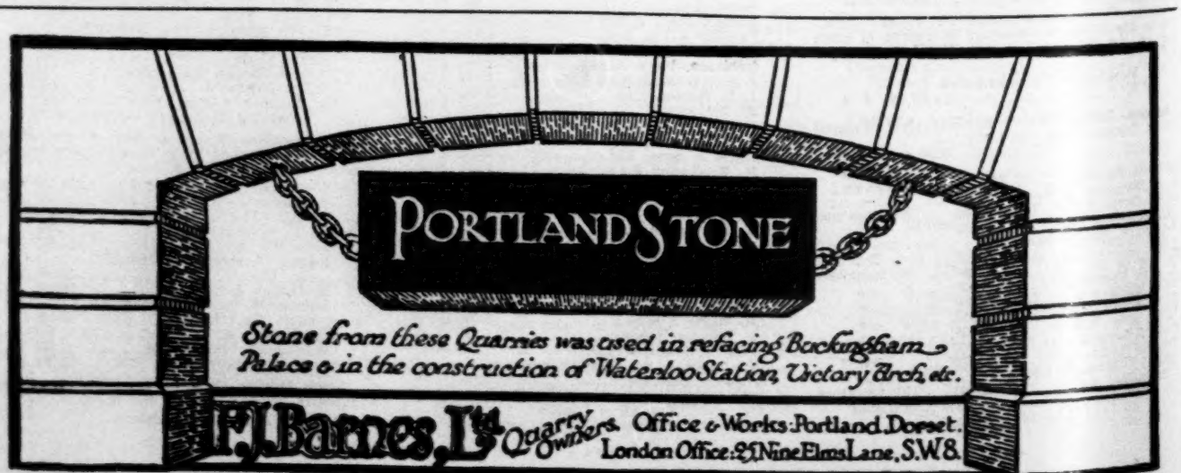
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